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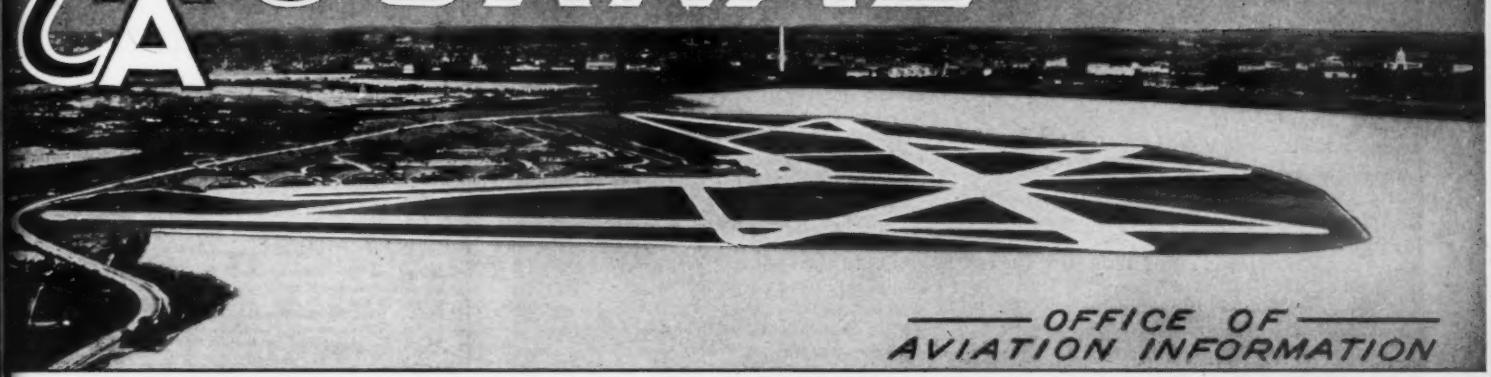

OFFICE OF AVIATION INFORMATION

VHF Omniranges Accurate, CAA Flight Checks Show

The new very high frequency omniranges being installed throughout the United States for air navigation are proving to be "gratifyingly accurate and precise," D. W. Rentzel, Administrator of Civil Aeronautics, said recently after studying the results of exhaustive CAA tests at scores of omnirange sites.

A flight-checking program, by the Federal Airways and Technical Development branches of the CAA, has been under way for many months. The results, Mr. Rentzel said, have "amply justified selection of the omnirange as an interim aid by the Radio Technical Commission for Aeronautics."

"The International Civil Aviation Organization established definite performance standards for short-range navigational aids in January 1947," Mr. Rentzel said. "We are pleased to report that omniranges commissioned by the CAA exceed the ICAO standards—in most cases by substantial margins. Even so, we are working continuously on a program to provide even greater accuracy in these navigation aids.

"Another important fact is that the CAA has developed new devices which have completely eliminated early problems of instability in omniranges."

Studies Are Continued.—In addition to the continuing CAA studies at many sites, the Air Navigation Development Board has published a study of a CAA omnirange installation at Indianapolis. The ANDB report is the result of a cooperative study by the Air Force, Army, Navy and CAA, and like the CAA studies, shows that this particular omnirange exceeds the ICAO standards.

The margin of error inherent in any new electronic device has been narrowed steadily in the case of the omnirange, Mr. Rentzel pointed out. The inherent error in the range itself is two degrees or less at any point of the compass, and the better receivers have maximum error of one degree or less, and are steadily improving.

In the case of commissioned CAA ranges, the combined errors of the range, the receiver, and effects caused by surrounding terrain are held to less than three degree for more than 95 pecent of the area surrounding the range.

Standard procedures for use of omniranges under instrument conditions now have been developed. These provide for 24 flight paths for lateral separation of aircraft in the coverage of each omnirange, with a separation of 15 degrees between paths. This separation permits a wide margin of safety under all operating conditions. Under visual conditions, of course, additional flight paths are available.

Aircraft Lack Is Bottleneck.—At present there are 240 omniranges operating in the United States, of which 26 have been commissioned. Lack of aircraft for the comprehensive flight checks necessary for commissioning has been a bottleneck in the program. Additional aircraft have been modified for use in flight-checking, however, and the commission-

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336 Air Markers Are Installed By Boy Scouts in 1948

Boy Scouts installed 336 air markers last year, D. W. Rentzel, Administrator of Civil Aeronautics, announced.

"That gives the fliers of America their particular reason for being grateful for the existence of Boy Scouts," Mr. Rentzel added. "Few flying aids are so important and so appreciated as the simple marker on the ground which tells the man in the air exactly where he is. We hope, of course, that these Boy Scouts will get more than the satisfaction of doing a civic duty. We hope they will all be flying their own planes some day and using these markers which they have installed."

More than 20,000 boys participated in the work, according to the Scouts' "Report to the Nation." Air marking was listed as their "Special Service Project" for 1948. They installed the largest air marker in the world during the year, on the roof of an automobile plant at Chicago. The individual letters are 50 feet high.

Various Civic groups and the Civil Aeronautics Administration provided the paint for the markers, and the Scouts provided the labor.

The annual report announced that the Scouts' air-marking program will be expanded in 1949, "by popular demand."

State Officials Urged To Control Crop Dust Uses

State agricultural officials are in a better position to control the use of chemicals in crop dusting and spraying than anyone else, George D. Childress, Chief, Industrial Operations Section of the Civil Aeronautics Administration, told the Aerial Agricultural Spraying Conference February 24 at Kansas State College.

Control, as well as education, is necessary, he said, and should be applied both to ground and aerial applicators. The problem is one for state officials, he added, "Since they are closest to local conditions and have experienced personnel.

"The CAA has no personnel experienced in plant pathology or in pesticides and must, therefore, depend on the Department of Agriculture for its recommendations," he pointed out.

CAA regulations would have to be uniform throughout the country, but regulations adequate for one section would not be suitable for another, he said.

Some States Require Permits.—"Some states already require that aircraft dusters and sprayers register with their Department of Agriculture and secure permits for the dispersal of any chemicals where control is considered necessary," he said. "That appears to be a satisfactory arrangement, with two important provisions: that there are no discriminatory or exorbitant registration fees, and that the states do not attempt the cerification of pilots and aircraft, which is a federal government function."

He stressed the importance of education in the use of the aircraft in agricultural pursuits, adding that education already is under way. "Universities with agricultural colleges are holding 2- and 3-day meetings at which the problems of the operator, the farmer, and the chemical manufacturers are discussed," he said. "Representatives of the CAA attend these meetings, and the cooperative atmosphere of all of them promises well for continued progress and the curing of the problems facing this promising industry.

Operator Legally Responsible.—"The CAA feels that most of the education required is in the nature of the pesticides used. The operator faces legal responsibility for the harmful effects of anything which he applies, and we have already had instances of judgment rendered against operators. More important is

(*Continued on page 29*)

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23,591 Miles Added In Route Expansions, Board Report Shows

Air transport route development during the fiscal year ending June 30, 1948, is summarized in the annual report of the Civil Aeronautics Board recently published. Board actions added 23,591 miles to the interstate air transportation system.

"By the end of the 1948 fiscal year the domestic air transportation routes of the United States had expanded to a new record of 138,501 route miles, with 42 certificated air carriers authorized to serve a total of 746 cities," the report says.

"Domestic air transportation decisions of the Board added 23,591 miles of new trunk-line and feeder routes to the interstate air transportation system, of which 12,217 represented trunk-line route additions and 11,374 miles represented temporary certification of experimental local-feeder and commuter service," the report continues. "This brought the total feeder and commuter service to approximately 24,000 route miles, with an additional 4,300 feeder route miles selected for operation by the Board but not yet certified to the selected applicants.

"During the fiscal year the Board authorized both trunk-line and feeder air carriers to serve 289 cities, placing 137 additional new points on the air-line map. Of these additional cities, 22 are authorized to receive trunk-line air service, 106 feeder air service, and 9 commuter air service."

New Points Get Service.—"Scheduled air service was inaugurated at 182 new points on domestic air carrier routes during the fiscal year and additional service was inaugurated to 154 cities. Helicopter air mail services was inaugurated at 39 local points in the Los Angeles area during the same period. Because of temporary suspensions, 54 trunk-line points, 174 feeder route points and 12 combination trunk-line and feeder points were unserved at the end of the fiscal year.

"Internationally 15 United States flag carriers are authorized to operate 171,252 foreign and overseas route miles, covering 223 cities, of which 78 are now receiving scheduled air-carrier service. A new United States flag carrier, Braniff Airways, inaugurated service from Houston, Tex., to the west coast of South America during the fiscal year. Only one new certificated foreign point was added to the international routes of United States air carriers, although one point was added to the routes of two carriers by temporary exemption orders, and six points were added through changes in the service pattern of air carriers.

Agreements Are Concluded.—"Bilateral air agreements have been concluded between the United States and 33 foreign countries, under which 110 points have been agreed upon for service by United States carriers. Eleven United States flag carriers have been authorized to serve 99 of these points; the remaining 11 points agreed upon with foreign governments have not as yet been certificated to any American carrier. In foreign countries which have no bilateral agreements with the United States 43 points are certificated as points on the routes of United States flag carriers.

"The outstanding developments in the Nation's air route authorizations during the fiscal year consisted of a number of important extensions of trunk-line routes, the creation of five new feeder routes, the extension of the routes of several feeder carriers previously certificated, and the certification of a number of additional cities for service by existing air carriers."

Progress Report Made On Airport Program

The Third Annual Report of the Federal Airport Act, prepared annually by the CAA for submission to the Congress was announced last month by D. W. Rentzel, Administrator of Civil Aeronautics.

The report covers all phases of work accomplished under the Federal Airport Program through the fiscal year ending June 30, 1948 plus additional facts and statistics which carry through October 31, 1948.

It lists total Federal expenditures for airport construction and development as of October 31 as being $15,900,000 of which $4,621,897 was for 126 completed projects. Grant agreements where local sponsors have accepted Federal grant offers for Federal aid on specific projects numbered 466 for $46,160,056 in Federal funds for work on 423 airports. The $46,160,056 figure represents approximately 42 percent of the $110,412,500 made available in three congressional appropriations for construction or development over the life of the program.

Completed Projects Listed.—The report lists the completed projects with Federal and sponsor shares. The incompleted projects are listed by States showing the amount of tentative allocation, description of the work, the status of selection of site, surveys, plans and specifications as well as the amount required for the work. Percentage of sponsor funds available and those assured are shown on each project and also the percentage of physical development completed.

Figures on the 1948 National Airport Plan are included in addition to a list of communities seeking reimbursement for damage by Federal agencies to airports.

While the annual report does not carry figures on the airport program subsequent to October 31, 1948, it is a comprehensive picture of airport building activities as required by law. More current figures have been released monthly since October by the CAA in news releases Nos. 316 and 334.

Copies of the Third Annual Report of the Federal Airport Act may be obtained from the CAA Office of Aviation Information, Washington 25, D. C.

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DEPARTMENT OF COMMERCE
Charles Sawyer, *Secretary*

Civil Aeronautics Administration
D. W. Rentzel, *Administrator*

Ben Stern, *Director*
Office of Aviation Information

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Weather Flying Discussed In New CAB Safety Bulletin

Weather flying is discussed in a Safety Bulletin recently issued by the Bureau of Safety Investigation of the Civil Aeronautics Board.

"Of the first 4,000 accidents during 1948, 75 were classed as, 'continuing visual flight into instrument weather,'" the Bulletin reveals. "In plain language that means trying to fly visually when there isn't any visibility.

"Those attempts killed 41 of the 75 pilots and 63 passengers; they seriously injured 6 pilots and 3 passengers. Of the 75 planes, 53 were washed out and 22 were more or less damaged.

The Bulletin, entitled "If You Don't Know Weather Flying," is numbered Safety Bulletin No. 182–48 and is on sale for 5 cents a copy by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

Awards for Outstanding Service Given 11 in CAA

Meritorious service awards were made to 11 employees of the Civil Aeronautics Administration last month in connection with the celebration of the 46th anniversary of the Department of Commerce. The awards were for "service of unusual value to the Department."

Six employees of the Central Office of the CAA in Washington were presented silver medals at the ceremonies. They were:

George M. Bailey, placement assistant, Personnel Service, for "highly conscientious performance of duties over many years."

Nelle Gompers, mail supervisor, Contract and Requirements Service, for "ingenuity and skill evidenced during the late war in devising a method to insure rapid and reliable delivery of Weekly Notices to Airmen."

Stafford Kernan, chief, Aviation Statistics Division, Office of Aviation Information, for "highly meritorious contributions to aviation through important statistical studies and reports of vital significance to both civil and military aviation."

Louis W. Lawrence, chief, Contract and Procurement Division, for "consistently meritorious performance of duties, including outstanding service as Chairman of the Civil Aeronautics Administration Contract Termination Board."

Charles R. McComas, exhibit specialist, Visual Services, Office of Aviation Information, for "highly meritorious performance of official duties, including the development of a system which has facilitated the reproduction of technical aviation publications in foreign languages."

G. Sidney Stanton, chief, Examination Section, Airman Service, for "highly meritorious contribution to aviation through authorship of the publications 'Realm of Flight,' 'Path of Flight,' 'Facts of Flight,' and the 'Student Pilot Guide.'"

Field employees awarded silver medals were:

Don L. Carmean, Region II, for "courage and resourcefulness beyond the normal call of duty in rescuing two persons from a wrecked aircraft near Mascara Island, Puerto Rico, on January 7, 1948."

Maurice Benningfield, Region VIII, for "outstanding resourcefulness in locating the wreckage of a commercial aircraft which crashed on Mount Sanford, Alaska, on March 12, 1948."

Layton A. Bennett, Region VIII, for "courage and service beyond the normal call of duty in piloting his personal plane at late hours over hazardous terrain in search of a crashed aircraft on Mount Sanford, Alaska, March 12, 1948."

Warren H. Curry, Region VII, for "highly meritorious foresight and initiative displayed in salvaging equipment and installing needed facilities in the Portland, Oreg., flood area May 30–31, 1948."

Glen W. McMillan, Region IX, for "unflagging courage and perseverance in accomplishing assigned duties under difficult conditions during the Marcus Island Survey, August 1948."

Widespread Interest In Aviation Indicated By Certificates Issued

Continued widespread interest in civil aviation is indicated by the official Civil Aeronautics Administration figures on airmen certifications during 1948. A combined total of almost 213,000 student, private and commercial pilot certificates was issued last year.

Despite the magnitude of the 1948 record, the figure for the year was about 107,000 or 33 percent below the peak achieved in 1947. Student certificates issued dropped from 192,924 to 117,725 (39 percent). Private pilot license issuances declined from 120,017 to 86,838 (28 percent). The commercial category increased from 6,668 to 8,151 (22 percent).

The month-by-month data on student, private and commercial pilot certificate issuances for the full 3 postwar years are shown in the table below. These figures clearly indicate: (1) the impetus of the military competence ruling on commercial pilot issuances during 1946, (2) the stimulus of the G. I. training program on student and private licenses during 1947 and the first half of 1948, and (3) the sizable decline in student and private pilot issuances in the latter half of 1948.

Pilot Certificates Issued

	Total	1948	1947	1946
Student				
January	26,768	10,623	11,200	4,945
February	28,555	10,191	12,881	5,483
March	34,000	12,215	14,436	7,349
April	44,124	13,866	17,659	12,599
May	49,567	14,839	18,793	15,935
June	53,730	17,176	18,620	17,934
July	58,675	13,477	23,263	21,935
August	46,545	8,529	17,549	20,467
September	44,126	5,656	20,339	18,131
October	44,703	4,306	18,204	22,193
November	26,974	3,665	9,081	14,228
December	26,314	3,182	10,899	12,233
Total	484,081	117,725	192,924	173,432
Private				
January	17,088	7,616	7,433	2,039
February	14,855	6,263	6,692	1,900
March	16,495	6,754	7,671	2,070
April	18,432	6,877	8,450	3,105
May	21,023	7,929	9,776	3,318
June	25,827	10,162	11,411	4,254
July	28,347	9,614	12,541	6,192
August	29,063	10,116	11,737	7,210
September	30,108	8,507	13,441	8,160
October	27,919	5,413	13,687	8,819
November	19,787	4,318	8,051	7,418
December	20,492	3,269	9,127	8,096
Total	269,436	86,838	120,017	62,581
Commercial				
January	9,210	443	385	8,382
February	5,808	437	433	4,938
March	5,646	527	482	4,637
April	6,530	796	705	5,029
May	5,410	764	627	4,019
June	4,851	900	765	3,186
July	4,866	805	785	3,276
August	3,814	862	500	2,452
September	3,388	777	651	1,960
October	2,763	619	544	1,600
November	2,491	631	393	1,467
December	2,172	590	398	1,184
Total	56,949	8,151	6,668	42,130

CAB Examiner Reports on Florida Airways

J. Earl Cox, an Examiner for the Civil Aeronautics Board, has recommended denial of the application of Florida Airways for an extension of its certificate for approximately 1 year to permit 3 full years of actual operation over its Route No. 75.

Chicago Now Has Downtown Landing Facility

Within 5 minutes from Chicago's "loop", and adjacent to Soldier Field, is the new Chicago Lake-front Air Strip which was opened to the public on December 10, 1948. Official dedication and naming will be deferred until spring.

Jointly planned and designed by Mr. Ralph Burke, Chicago Aviation Consultant, and with the assistance of Civil Aeronautics Administration airport engineers, and the Aviation Department of the State of Illinois, the new port offers a much needed downtown landing facility fully adaptable to executive and personal-type aircraft.

Through its use the former long traffic-congested trip from Municipal and outlying airports to downtown Chicago will be eliminated, and the often expressed desire of many aviation enthusiasts for a downtown landing strip within close proximity to the business area, will be fulfilled. The foregoing is fully depicted in the accompanying photograph which clearly indicates the unobstructed approaches to the two-way strip, full length taxi-way, parking areas, and future emergency service area.

CAA Powerplant Handbook Placed on Sale at $1.25

"Aircraft Powerplant Handbook," the latest Civil Aeronautics Administration technical manual, has been placed on sale at the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., at $1.25.

CAA Technical Manual No. 107, as it is known, is a revision of Civil Aeronautics Bulletin No. 28, which was called "Pilot's Powerplant Manual" and which was a textbook for the several hundred thousand pilots trained by the CAA in the Civil Pilot Training Program before and during the war. The new edition, however, is a more comprehensive book, with virtually every part revised, and material included on the latest types of powerplants, including turbo-jet, turbo-prop, and compound engines.

Many chapters of Bulletin 28 have been rewritten extensively in the light of research developments. In the case of material on new type engines, the text is geared to first ventures into the field, and has been included only as basic information and as a possible incentive to students to go beyond the elementary stages in their study.

Policy of the authors has been to avoid purely descriptive material wherever possible since it quickly goes out of date, and the advice is given to readers to obtain additional descriptive matter on specific powerplants from the manufacturers.

During the writing, the authors reviewed more than 50 other books on aircraft powerplants, and one result of this survey has appeared in the extensive and detailed index which facilitates the use of the new book. The time spent in assembly of the material and preparation of the book was considerable, and CAA officials feel that the resulting text is one of the most complete and useful ever to appear in this field. The Department of the Air Force, the Navy's Bureau of Aeronautics, and manufacturers of engines, propellers, and accessories receive CAA thanks for their cooperation in making material available.

Personnel of the Powerplant Engineering Division of the CAA prepared the copy for the Handbook.

CAB Member Proposes New Legislation to Aid In Financing Airlines

Legislation to permit the Reconstruction Finance Corporation to guarantee equipment trust certificates was suggested by Harold A. Jones, Member of the Civil Aeronautics Board, in an address last month at the Air Transport Institute of the Americen University.

Mr. Jones emphasized that he was speaking as a private citizen and not as a Board member.

With this legislation, Mr. Jones said, "current commercial loans now secured by equipment could be refinanced and new RFC guaranteed equipment trust certificates sold to investors. Such a certificate would have all the security of a Treasury note and should not require much more interest. The retirement term could be prolonged and sinking fund requirements made less onerous.

"I suggest that until the legislation above suggested is enacted, all financially embarrassed carriers whose funded debt position is now such that it works an undue hardship on the carrier and jeopardizes it financially should be permitted to enter into a voluntary refinancing plan with approval of the Board; and that the RFC refinance the equipment loans which constitute a large part of such funded debt on a fair and equitable basis permitting more reasonable interest terms, sinking fund terms and repayment terms."

Direct Loans Possible.—"Such refinancing could be accomplished by direct loans or the purchase of equipment trust certificates by RFC. It may do either or both under Section 604 of the RFC Act. The requirement of reasonable assurance of payment of interest and principal is present. Most of the equipment purchased with bank loans has a present value sufficient to secure the needed refinancing. In addition to that, the RFC may rely upon mail pay policy of the Board which should enable the carrier under efficient and economical management to receive enough mail pay to take care of all sinking fund or depreciation requirements and to pay the interest.

"The amount involved would be about $250,000,000 even if all the airlines sought refinancing," he said, adding, "and please remember, the RFC would not be giving away this money. It would only be lending it, or guaranteeing a loan."

"Equity financing is not presently possible," Mr. Jones said. "Likewise, the possibility of obtaining large loans from banks or insurance companies is remote, if not nil. The banks and insurance companies are already in too deeply."

Mail Pay Policy Helps.—"The present mail pay policy of the Civil Aeronautics Board is a help and will continue to be a help, but it is not the whole answer. Only approximately 8½ percent of the revenues of the domestic airlines comes from airmail. A loss of 10 percent in airline revenues would mean an increase of 115 percent in airmail pay and the repercussions if such an increase were allowed would be immediate and severe.

"It is my belief that the airlines will continue to effect sound economies and to control expenses; and if they are permitted to take advantage of technological advances, and if uneconomic competitive situations are remedied, they will establish a record of regular earning which will permit proper equity financing at a reasonable cost. But until this time arrives, some interim plan must be adopted. National security alone makes it unthinkable that the present critical financing conditions of so many of the airlines should continue."

(*Continued on page 29*)

Air Carrier, Military Aircraft Activities Increase

Civil air carrier and military aircraft operations—landings and take-offs—at 43 selected airports in December 1948 were well above the previous year. In contrast, operations of other civil aircraft were considerably short of the December 1947 figure.

Air carrier operations at these 43 airports totalled 183,575 compared with 168,168 in December 1947. The five leading airports of the country, in terms of air carrier operations, were Chicago Municipal, Washington National, New York LaGuardia, Miami, and Los Angeles.

Aircraft Operations at 43 Selected Airport Traffic Control Towers

Airports	Total		Air carrier		Other Civil		Military	
	Dec. 1948	Dec. 1947	Dec. 1948	Dec. 1947	Dec. 1948	Dec. 1947	Dec. 1948	Dec. 1947
Albuquerque	13,572	8,609	2,426	2,295	1,972	1,642	9,174	4,672
Amarillo	4,189	4,383	2,140	2,322	1,530	1,861	519	200
Atlanta	14,886	28,028	4,901	4,226	9,760	23,652	225	150
Baltimore	5,980	7,738	2,701	2,620	2,771	4,522	508	596
Birmingham	15,774	15,680	2,581	2,081	7,994	10,128	5,199	3,471
Boston	8,509	7,884	4,690	4,340	2,609	2,242	1,210	1,302
Buffalo	6,483	5,603	2,525	2,019	3,656	3,417	302	167
Burbank	12,254	11,434	3,748	2,472	5,989	7,412	2,517	1,550
Chicago (municipal)	17,605	13,922	11,733	10,712	4,985	2,790	887	420
Cleveland	17,455	28,605	6,335	5,692	9,229	20,895	1,891	2,018
Columbus	20,214	12,840	3,036	2,398	8,650	6,972	8,528	3,470
Covington	5,686	7,375	3,547	3,394	2,099	3,941	40	40
Dallas	10,924	10,003	5,514	5,616	5,238	4,316	172	71
Dayton	9,432	9,748	2,740	2,288	5,634	6,925	1,058	535
Denver	10,777	17,696	3,500	3,912	7,240	13,665	37	119
Detroit (Willow-Run)	8,334	6,539	6,625	5,641	1,600	827	109	71
El Paso	8,748	13,762	1,257	1,120	7,017	12,588	474	54
Fort Worth	8,974	9,899	2,797	2,755	6,111	7,110	66	34
Honolulu	13,570	12,755	3,905	3,772	8,699	7,977	966	1,006
Houston	7,487	7,675	3,110	2,577	4,242	5,026	135	72
Indianapolis	11,384	18,075	3,232	2,778	7,981	14,976	171	321
Jacksonville	8,548	8,408	4,060	4,176	2,577	2,629	1,911	1,603
Kansas City, Mo.	13,559	18,701	5,629	5,039	7,886	13,608	44	54
Los Angeles	13,223	13,345	7,650	6,067	3,789	5,417	1,784	1,861
Memphis	8,006	10,449	2,241	2,467	3,033	4,695	2,732	3,287
Miami	17,768	15,765	7,997	7,407	6,541	4,954	3,230	3,404
Minneapolis	17,015	19,483	3,541	2,551	5,582	8,417	7,892	8,515
Nashville	8,682	6,758	2,906	2,826	2,133	1,694	3,643	2,238
Newark	6,968	8,903	4,171	4,639	1,288	1,953	1,509	2,311
New Orleans (Moisant)	3,428	2,708	2,799	2,204	455	421	174	83
New York (La Guardia)	11,744	11,017	9,874	9,235	1,781	1,696	89	86
Oakland	16,084	17,607	3,944	3,034	7,369	10,846	4,771	3,727
Omaha	8,541	14,717	2,190	2,523	6,166	12,162	185	32
Philadelphia (S. W.)	8,187	6,888	5,040	4,690	2,721	1,990	426	208
Phoenix	18,141	35,864	2,089	2,484	14,777	33,103	1,275	277
Pittsburgh	10,700	8,100	6,824	5,455	3,803	2,539	73	106
Portland, Oreg.	6,226	6,954	2,737	2,823	1,123	987	2,366	3,144
St. Louis	17,979	10,650	4,828	4,141	8,669	4,746	4,482	1,763
San Francisco	9,025	11,518	5,781	6,834	2,666	3,749	578	935
Seattle	7,439	7,399	2,035	2,501	5,039	4,741	365	157
Tulsa	12,519	8,111	2,384	2,007	6,360	3,922	3,775	2,182
Washington, D. C.	13,423	11,092	9,884	8,015	1,883	1,979	1,656	1,098
Wichita	14,040	10,902	1,928	2,035	10,599	8,259	1,513	608
Total	483,482	523,592	183,575	168,183	221,246	297,391	78,661	58,018
Percent of total	100	100	38.0	32.1	45.7	56.8	16.3	11.1

December Engine Shipments Gain Over November

Shipment of 312 civil engines in December, following a postwar low of 193 in November, brings the 1948 total to 9,039 engines. This compares to 16,351 during 1947 and 40,822 in 1946.

Value of December civil engine shipments, plus spares and other products, was $3,430,000, bringing the 1948 total value to $56,141,000. This compares with shipment value of $82,280,000 during 1947.

The month-by-month figures on civil engine shipments by number and value during 1948 were as follows:

1948 Civil Engine Shipments—Number and Value*

Month	Number of Engines	Value			
		Engines	Spares	All Other Products[1]	Total
January	779	$3,149,199	$1,572,186	$68,658	$4,790,043
February	1,007	3,562,073	1,818,472	73,488	5,454,033
March	1,089	2,872,478	2,302,297	89,527	5,264,302
April	973	3,220,452	2,014,309	285,699	5,520,460
May	1,286	2,922,932	1,878,590	268,972	5,070,494
June	1,457	6,543,817	2,347,919	300,162	9,191,898
July	636	1,088,043	2,115,412	169,738	3,373,193
August	660	1,484,958	1,990,784	173,649	3,649,391
September	428	1,877,993	2,458,247	122,650	4,458,890
October	219	787,120	1,720,481	111,138	2,618,739
November	193	1,169,904	2,036,197	113,362	3,319,463
December	312	1,338,281	1,945,517	146,026	3,429,824
Total	9,039	$30,017,250	$24,200,411	$1,923,069	$56,140,730

*Subject to later revision.
[1] Principally non-aeronautical products.

Airframe Shipments Off In 1948 by 44 Percent

December shipment of 235 civil aircraft brought the year's total to 7,302, or only 47 percent of the 1947 total of 15,617. However, civil airframe weight shipped during 1948 totaled 10,082,500 pounds or 56 percent of the 17,853,400 pounds shipped during 1947.

Value of civil aircraft and spares shipped during 1948 was $137 million or 70 percent of the $197 million shipped during 1947—and 73 percent of the $189 million shipped during 1946.

Thus, on a basis of value alone, 1948 is reflected in a more favorable light in comparison with both 1947 and 1946. This is due in part to increasing prices, but to a greater extent to the increasing use and popularity of the 4-place and larger personal plane as it replaces the less utilitarian 2- and 3-place models.

Commercial transport shipments totaled 263 weighing 4,796,000 pounds, somewhat below 1947 shipments of 278 aircraft weighing 6,446,000 pounds.

The tables which follow show 1948 civil shipments by month, in terms of both number of units and dollar value.

1948 Civil Aircraft Shipments—Number*

Month	Type			Total
	2-place	3- to 5-place	Over 5-place	
January	229	220	13	462
February	221	226	14	461
March	337	227	14	578
April	461	289	16	766
May	337	441	34	812
June	482	444	33	959
July	473	430	17	920
August	242	432	26	700
September	208	361	21	590
October	156	320	26	502
November	99	195	23	317
December	57	152	26	235
Total	3,302	3,737	263	7,302

1948 Value of Shipments*

Month	Civil Aircraft	Civil Spares	All other Products [1]	Total
Jan	$4,516,602	$1,765,706	$3,006,683	$9,288,991
Feb	6,120,080	2,360,629	2,848,626	11,329,335
Mar	7,690,730	1,850,068	2,918,653	12,459,451
Apr	8,430,008	1,690,639	2,895,797	13,016,444
May	18,984,210	1,980,243	2,345,754	23,310,207
June	16,848,730	1,935,881	3,028,418	21,813,029
July	9,510,753	1,766,985	1,812,833	13,090,571
Aug	9,869,566	1,881,639	1,955,667	13,706,872
Sept	9,454,937	1,871,511	2,243,491	13,569,939
Oct	8,406,795	2,067,110	1,709,818	12,183,723
Nov	6,878,241	1,185,753	2,012,532	10,076,526
Dec	7,496,938	2,432,949	1,991,829	11,921,716
Total	$114,207,590	$22,789,113	$28,770,101	$165,766,804

*Subject to later revision
[1] Principally conversions and non-aeronautical products.

RFC Loans Suggested

(*Continued from page 28*)

He proposed a short-term financing plan to provide emergency loans for working capital and equipment.

"I suggest that RFC loan sufficient sums to financially embarrassed carriers to supply (a) needed working capital (to the extent that the need is not met by mail pay actions of the Board); and (b) amounts necessary to service their commercial funded debt."

He suggested also that the RFC make temporary equipment loans to those companies which are committed to the purchase of new equipment, the payment for which would work an undue hardship during this financial emergency.

Air Regulations . *on March 1, 1949*

Title	No.	Part: Price	Part: Date	Part: No. of Amendments	Manual: Price	Manual: Date	Manual: No. of Amendments
Aircraft							
Airworthiness Certificates	1	$0.05	10/15/42	3	None	None	.....
Type and Production Certificates	2	.05	7/1/46	1	$0.10	8/1/46	.....
Airplane Airworthiness—Normal, Utility, Acrobatic, and Restricted Purpose Categories	[1] 3	.25	12/15/46	4	None	None	.....
Airplane Airworthiness	4a	.25	11/1/47	1	.75	7/1/44	2
Airplane Airworthiness Transport Categories	[1] 4b	Free	11/9/45	10	None	None	.....
Rotocraft Airworthiness	6	.10	5/24/46	2	None	None	.....
Aircraft Airworthiness, Limited Category	9	.05	11/21/46	2	None	None	.....
Engine Airworthiness	13	.05	8/1/41	.....	None	None	.....
Propeller Airworthiness	14	.05	7/15/42	1	.15	5/1/46	.....
Equipment Airworthiness	15	.05	5/31/46	.....	None	None	.....
Radio Equipment Airworthiness	16	.05	2/13/41	.....	Free	2/13/41	1
Maintenance, Repair, and Alteration of Aircraft, Engines, Propellers, Instruments	18	.05	9/1/42	.....	.60	6/1/43	.....
Airmen							
Pilot Certificates	20	.05	11/10/48	1	None	None	.....
Airline Pilot Rating	21	.05	10/1/42	5	None	None	.....
Lighter-than-air Pilot Certificates	22	.05	10/15/42	5	None	None	.....
Mechanic Certificates	24	.05	7/1/43	[2] 3	None	None	.....
Parachute Technician Certificates	25	.05	12/15/43	5	None	None	.....
Traffic Control Tower Operator Certificates	26	.05	10/10/45	4	None	None	.....
Aircraft Dispatcher Certificates	27	.05	7/1/46	3	None	None	.....
Physical Standards for Airmen	29	.05	1/10/46	.....	None	None	.....
Flight Radio Operator Certificates	33	.05	8/1/47	1	None	None	.....
Flight Navigator Certificates	34	.05	8/1/47	1	None	None	.....
Flight Engineer Certificates	35	.05	11/10/48	.....	None	None	.....
Operation Rules							
Air Carrier Operating Certification	40	.10	7/10/46	[3] 2	None	None	.....
Scheduled Air Carrier Operations Outside Continental United States	41	.10	7/20/48	[4] 2	None	None	.....
Nonscheduled Air Carrier Certification and Operation Rules	42	.05	8/1/46	[5] 10	.15	11/1/46	.....
General Operation Rules	43	.05	12/1/47	4	None	None	.....
Foreign Air Carrier Regulations	44	.05	11/1/47	.....	None	None	.....
Operation of Moored Balloons	48	.05	9/28/47	.....	None	None	.....
Transportation of Explosives and other Dangerous Articles	49	.05	7/1/45	1	None	None	.....
Air Agencies							
Airmen Agency Certificates	50	.05	4/30/46	.....	.15	5/15/46	2
Ground Instructor Rating	51	.05	12/15/43	3	None	None	.....
Repair Station Rating	52	.05	10/1/42	1	No stock	2/41	.....
Mechanic School Rating	53	.05	8/1/42	1	Free	5/40	.....
Parachute Loft Certificates and Ratings	54	.05	1/21/43	.....	.15	7/1/43	.....
Air Navigation							
Air Traffic Rules	60	.10	10/8/47	3	[7] $1.00	8/1/48	.....
Scheduled Air Carrier Rules	61	.10	6/15/48	[6] 3	None	None	.....
Miscellaneous							
Rules of Practice Governing Suspension and Revocation Proceedings	97	Free	1/1/47	1	None	None	.....

[1] Certain aircraft may comply with the provisions of this part or part 4a.
[2] Special regulations SR-324, SR-324-A.
[3] Special regulations SR-323, SR-323-A, SR-326.
[4] Special regulations 397, 397-A, SR-325.
[5] Special regulation SR-325.
[6] Special regulations 397, 397-A, SR-323, SR-323-A, SR-325.
[7] Combined with Flight Information Manual, Vol. 3, No. 2.

NOTE: Those parts and manuals for which there is a price are obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances should be by check or money order, payable to the Superintendent. Currency is sent at sender's risk. Amendments, Special Regulations and free Parts are obtained from the Publications Section, Civil Aeronautics Board, Washington 25, D. C.; free Manuals from the CAA Office of Aviation Information, Dept. of Commerce, Washington 25, D. C.

State Control Suggested To Assist Crop Dusters

Continued from page 25

the effect which such legal action will have on the future of the business. We must now educate the operators in the characteristics of the material they use to spray or dust crops. They must have a good knowledge of these chemicals so that they can protect the property of others and do the best possible job for the farmer. We are keeping a very close liaison with the Department of Agriculture in order to assist those in the aviation industry who are concerned.

"We will cooperate in every way possible with both the control and education, as both are necessary. However, we intend to devote our efforts primarily to education in place of regulation."

Crop dusting and spraying now is "big business," Mr. Childress said. The combination of surplus aircraft, experienced pilots and the development of 2,4-D, an acid that kills weeds, accounts for much of the recent growth of this kind of flying. Until 2 years ago there were practically no complaints of crop damage caused by aerial dusting and spraying but with the rapid increase in the use of 2,4-D, complaints became numerous. On request of the Secretary of Agriculture, the CAA last year prohibited the dusting of 2,4-D from aircraft.

No Hardships Resulted.—"There are, however, liquid forms of 2,4-D which can be more accurately applied from the air, and no hardship was worked by our order on those who were using it," Mr. Childress said.

"Unfortunately, the ban on 2,4-D dust has not eliminated all the causes of complaints. While there are many excellent operators, some have used poor operational procedures and others have leaky spray equipment which dribbles 2,4-D over sensitive crops." The chemical, however, "has great possibilities and is far too valuable to the farmer and the nation for its use to be prohibited or seriously curtailed," he added. "For the protection of all, including the aircraft spray operator, control of this chemical is necessary. Indiscriminate use will surely result in regulations which inevitably will prohibit its use. It is also reasonable to expect that other chemicals will be developed which will require as much control."

Mail Rate Is Proposed For Mid-Continent Line

The Civil Aeronautics Board has proposed final mail rates for Mid-Continent Airlines over its entire system, effective January 1, 1949, on a sliding scale with a base or maximum rate of 25.50 cents per airplane mile, related to a daily base mileage of 20,000 miles. The actual rate to be received by the carrier will be computed on the basis of passenger load factors and miles actually flown.

At an estimated load factor of 56 percent, forecast for the future, the effective rate would be 18 cents per revenue plane mile, yielding the carrier a rate of return after taxes of 8.0 percent on its investment. The Board estimates that the mail rate should bring Mid-Continent annual mail compensation of approximately $1,490,000.

At the same time the Board proposed that for the previous period from January 19 through December 31, 1948, $1,153,502 be paid to Mid-Continent as total mail pay for the period. This amount is equivalent to a rate of 15.05 cents per revenue plane mile, and will afford the carrier approximately $236,000 in addition to the mail pay previously received for this period.

The Board concurrently proposed a rate for Mid-Continent's route 80, from Tulsa to Houston, for which no rate had previously been established. From February 1, 1947, through January 18, 1948, it is proposed to pay Mid-Continent the lump sum of $225,123, which is equivalent to 29.37 cents per revenue plane mile flown on the route during the period. After January 18, 1948, the system rate proposed by the Board will be effective over route 80.

Under the Board's proposals, Mid-Continent will receive approximately $461,000 in retroactive mail pay.

VHF Omniranges Accurate, CAA Flight Checks Show

(*Continued from page 25*)

ing program is now getting into high gear. In addition to the 240 ranges now operating, 83 others are in the final stages of radio installation, and 67 other VHF ranges of a different type eventually will be modified to omniranges.

One of the problems to which CAA is devoting considerable attention is the occasional appearance of "scallops" or bends in the omnirange patterns. These already have been reduced to a point where they are a great deal less of a problem than in older-type four-course ranges. Continuing efforts are being made to eliminate them entirely, however.

"The progress already made in omnirange quality, as demonstrated by our own studies and that of the ANDB, can be a source of pride to all who are taking part in the RTCA program for modernizing our airways," Mr. Rentzel said. "I am confident that continuing effort will result in even more satisfying results."

Feeder Lines Maintain Safety Record

Feeder lines in the United States flew 304,968 revenue passengers 69,141,000 passenger miles without a single fatality during the first three quarters of 1948, a report issued recently by the Bureau of Safety Investigation of the Civil Aeronautics Board reveals. In the comparable period of 1947, the feeder lines had an aggregate passenger total of 171,126 in flying 36,590,000 passenger miles likewise without any fatalities.

Civil Aviation Highlights

	1949	1948
Airports recorded with CAA, *Feb. 1*	6,409	5,815
By Type: [1]		
Commercial	2,942	2,904
Municipal	2,072	1,804
CAA intermediate	161	174
Military	396	475
All others	838	458
Civil airports by class:		
Total	6,013	5,340
Class I and under	3,997	3,587
Class II	979	845
Class III	469	424
Class IV	361	323
Class V	131	107
Class VI and over	76	54
Total U. S. civil aircraft, *Feb. 1*	95,248	95,847
Scheduled air carrier aircraft, *Feb. 1*	1,048	969
Civil aircraft production, *Dec.*:		
Total	235	502
2-place models	57	229
3-, 4- and 5-place models	152	258
Over 5-place models	26	15
Certificates Approved, *Dec.*:		
Student pilots	3,182	10,899
Private pilots	3,269	9,127
Commercial pilots	590	398
Airline transport pilots	62	83
Mechanics (original certificates)	691	732
Ground instructors (original certificates)	125	197
Flight instructor ratings	179	332
Flight navigators	18	–
Flight engineers	77	–
Flight radio operators	3	–
Instrument ratings	156	129
Control tower operators	128	118
Dispatchers	10	13
Traffic control activity, *Dec.*:		
Aircraft operations, CAA airport towers	1,122,778	1,227,626
Fix postings, CAA airway centers	951,731	845,803

Airport Operations

Washington National, *Jan.*:		
Scheduled air carrier:		
Passengers departing	39,465	32,664
Passengers arriving	39,933	33,021
Aircraft arrivals and departures	8,552	7,577
Other aircraft arrivals and departures	3,197	2,662
San Francisco Municipal, *Dec.*:		
Scheduled air carrier:		
Passengers departing	38,959	33,930
Passengers arriving	38,692	31,087
Aircraft arrivals and departures	5,781	6,834
Other aircraft arrivals and departures	3,244	4,684
Oakland Municipal, *Dec.*:		
Scheduled air carrier:		
Passengers departing	5,068	3,995
Passengers arriving	4,374	3,666
Aircraft arrivals and departures	3,944	3,034
Other aircraft arrivals and departures	12,140	14,573
Miami International, *Dec.*:		
Scheduled air carrier:		
Passengers departing	46,866	[2]
Passengers arriving	41,418	[2]
Aircraft arrivals and departures	7,997	7,407
Other aircraft arrivals and departures	9,771	8,358

[1] Airport type definitions: Commercial—Public use and public services, privately owned and operated. Municipal—Public use and public services, municipally owned and/or operated. CAA Intermediate—Public emergency use, no services, CAA operated. Military—Public restricted, military operated. All others—(a) Public emergency use only, no public services, privately owned for personal use; (b) Public emergency use only, no public services, Government-owned Forest Service, etc.

[2] Not available.

Aircraft Tabulated by Counties

A tabulation of civil aircraft recorded by states and counties as of October 1, 1948, has been completed by the Office of Aviation Information, Civil Aeronautics Administration, D. W. Rentzel, Administrator, announced.

The tabulation shows a grand total of 97,025 aircraft, of which 95,987 are in the continental United States. Of the 1038 United States aircraft based outside the continental limits, 663 are in Alaska, 233 in Hawaii, and 73 in Puerto Rico, with a sprinkling in other countries.

The complete listing by states and counties is available on request from the Office of Aviation Information, CAA, Washington 25, D. C.

Distress Signals Go On Airworthiness Cards

Distress ground-to-air signals will now be printed on the back of Aircraft Airworthiness Certificates, it has been announced by the Civil Aeronautics Administration.

Having established signals acceptable to both civil and military fliers, the CAA was faced with the problem of keeping the code always available for reference by the pilot flying across country. Since the Airworthiness Certificate must be kept in the plane, it was selected as a convenient place for recording the signals.

The signals give the pilots of searching airplanes a variety of facts to aid in the rescue of persons in distress. They can be made by laying out strips of white cloth against a green background; by evergreen boughs laid out on the snow; tramping down snow; and by several other methods.

The international symbol for help, SOS is more difficult to form, and does not give detailed information of the need existing, such as "Serious injuries, require doctor," "Require Food and water," "Require firearms and ammunition," etc. All the standard symbols are formed of straight lines and are easily distinguishable from the air.

Since airworthiness cards are printed in batches of 200,000 and are gathered in pads of 50, the new cards now being printed will not appear for some time. CAA officials suggest that pilots clip the accompanying illustration and paste it conveniently in their airplane.

New CAB Publication Lists Various Collision Causes

"What Causes Collisions?" is the title of a 11-page Safety Study recently published by the Bureau of Safety Investigation of the Civil Aeronautics Board.

The publication lists and discusses various circumstances which result in collisions. It is pointed out that stall-spin and collision accidents together caused approximately 88 percent of all fatal crashes in non-scheduled flying in 1946. Stall-spins caused 355 accidents with 494 deaths, while collisions caused 275 accidents with 402 deaths in that year.

Copies of the publication, No. 102–49, may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., for 5 cents each.

Scheduled Mileage Figures Given

The 16 domestic trunk airlines flew 98.34 percent of their scheduled mileage in October 1948, figures released by the Civil Aeronautics Board reveal. Of the 33.80 average available seats per mile, 58.68 percent were occupied by revenue passengers, as compared with 31.96 average available seats, of which 65.04 percent were occupied by revenue passengers for October 1947.

Scheduled Air Carrier Operations

(Source: CAB Form 41)

International and Overseas: January–November 1948, 1947

Operator	Revenue miles January–November		Revenue passengers January–November		Revenue passenger miles (000) January–November		Passenger seat-miles (000) January–November		Revenue passenger load factor (percent) January–November	
	1948	1947	1948	1947	1948	1947	1948	1947	1948	1947
American Airlines	2,147,899	2,459,332	62,764	69,280	45,084	54,794	83,559	93,287	53.95	58.74
American Overseas Airlines	6,823,389	6,842,335	69,285	55,817	158,806	157,484	258,175	229,242	61.51	68.70
Braniff Airways	507,731	–	3,248	–	5,557	–	24,895	–	22.32	–
Chicago & Southern Air Lines	691,924	430,101	13,569	8,821	11,244	6,051	33,161	17,797	33.91	34.00
Colonial Airlines	638,494	214,713	15,812	3,334	12,429	2,607	27,866	8,372	44.60	31.14
Eastern Air Lines	688,636	662,898	14,663	14,946	15,256	14,960	37,959	33,795	40.19	44.27
National Airlines	367,563	382,892	24,122	29,491	7,394	8,755	18,542	17,525	39.88	49.96
Northwest Airlines	3,956,193	2,412,838	25,721	17,796	52,979	32,206	92,924	74,193	57.01	43.44
Pan American Airways:										
Atlantic Division	11,854,214	10,822,789	107,553	114,944	262,679	280,783	393,965	390,830	66.68	71.84
Latin American Division	26,461,251	27,958,599	621,432	661,671	497,303	548,471	974,245	1,002,797	51.04	54.69
Alaska Operations	2,323,745	2,202,227	32,583	34,740	32,263	35,224	72,580	70,005	44.45	50.32
Pacific Operations	14,145,275	9,674,119	80,510	60,399	244,751	180,837	348,846	263,259	70.16	68.69
Pan American-Grace Airways	5,178,826	5,481,625	84,959	102,053	94,484	96,810	163,657	165,985	57.73	58.32
Transcontinental & Western Air	11,592,161	7,989,175	75,274	62,389	232,396	204,649	406,756	264,313	57.13	77.43
United Air Lines	1,708,800	1,020,035	20,630	15,502	49,789	37,205	68,593	42,020	72.59	88.54
Uraba, Medellin & Central Airways	128,864	213,071	2,036	4,231	676	1,329	2,092	3,831	32.31	34.69
Total	89,214,965	78,766,749	1,254,161	1,255,414	1,723,090	1,662,165	3,007,815	2,677,251	57.29	62.08
Index (1947=100)	113.26	100.00	99.90	100.00	103.67	100.00	112.35	100.00	92.28	100.00

Operator	Ton-Miles Flown							
	Express January–November		Freight January–November		U. S. Mail January–November		International Parcel Post January–November	
	1948	1947	1948	1947	1948	1947	1948	1947
American Airlines	0	0	1,314,465	1,278,781	77,841	88,477	0	–
American Overseas Airlines	2,395,766	1,750,841	0	0	1,258,575	1,355,027	139,350	–
Brainiff Airways	0	–	39,059	–	5,133	–	0	–
Chicago & Southern Air Lines	0	0	128,381	56,402	4,073	1,312	47	–
Colonial Airlines	0	2,646	59,382	0	7,811	2,299	546	–
Eastern Air Lines	0	0	374,384	112,925	36,971	23,828	121	–
National Airlines	184,170	66,947	0	0	10,243	6,217	0	–
Northwest Airlines	57,403	63,116	1,527,051	284,301	1,353,760	464,285	0	–
Pan American Airways:								
Atlantic Division	5,067,820	3,350,293	0	0	2,315,799	1,437,940	145,861	–
Latin American Division	16,351,643	14,797,400	0	0	2,342,736	2,250,814	0	–
Alaska Operations	3,056,384	388,098	0	0	368,015	305,409	0	–
Pacific Operations	4,100,386	2,820,078	0	0	3,468,556	2,379,402	0	–
Pan American-Grace Airways	1,402,616	1,512,973	134,545	17,079	190,523	207,553	0	–
Transcontinental & Western Air	3,686,310	2,748,279	0	0	2,155,389	2,175,736	238,596	–
United Air Lines	126,175	70,165	0	0	410,563	153,158	0	–
Uraba, Medellin & Central Airways	37,821	52,015	0	0	0	0	0	–
Total	36,466,494	27,622,851	3,577,267	1,749,488	14,005,988	10,851,457	524,521	–
Index (1947=100)	132.02	100.00	204.48	100.00	129.07	100.00	–	–

International and Overseas: November 1948

Operator	Revenue miles	Revenue passengers (unduplicated)	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor (percent)	Ton-miles flown			
						Express	Freight	U. S. Mail	International parcel post
American Airlines	197,968	5,558	3,886	8,201	47.38	0	119,814	7,064	0
American Overseas Airlines	518,938	4,941	11,682	19,798	59.01	242,153	0	194,813	24,681
Braniff Airways	88,322	530	874	4,157	21.02	0	15,858	668	0
Chicago & Southern Air Lines	98,827	1,476	1,535	4,941	31.07	0	25,714	1,024	5
Colonial Airlines	62,084	844	661	2,729	24.22	0	7,088	745	104
Eastern Air Lines	62,400	687	714	3,077	23.20	0	25,336	3,131	92
National Airlines	35,855	1,787	572	2,008	28.49	17,965	0	636	0
Northwest Airlines	426,364	2,442	6,053	8,899	68.02	6,592	328,317	177,160	0
Pan American Airways:									
Atlantic Division	970,292	7,893	21,577	29,816	72.37	709,522	0	284,042	24,267
Latin American Division	2,449,168	45,703	37,987	88,330	43.01	1,694,990	0	200,000	0
Alaska Operations	200,619	2,367	2,515	4,743	53.03	367,457	0	38,609	0
Pacific Operations	1,349,608	7,367	23,571	31,915	73.86	667,350	0	401,045	0
Pan American-Grace Airways	469,103	7,180	8,213	15,613	52.60	120,762	39,209	17,970	0
Transcontinental & Western Air	986,095	6,770	20,503	34,343	59.70	409,624	0	224,113	33,586
United Air Lines	148,800	1,959	4,701	6,478	72.57	13,733	0	73,761	0
Uraba, Medellin & Central Airways	7,968	142	47	138	34.06	2,386	0	0	0
Total	8,072,411	97,646	145,091	265,186	54.71	4,252,534	561,336	1,624,781	82,735

Domestic Passenger-Miles Flown (Total Revenue and Non-Revenue, in Thousands)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Trunk lines	406,599	364,344	447,405	492,435	550,223	600,378	572,260	582,588	559,346	546,999	462,991	492,236	6,077,804
Feeder lines	4,006	3,535	5,373	6,360	8,109	9,408	10,354	11,408	10,588	9,939	8,854	10,885	98,819
Territorial lines	4,097	3,859	4,225	3,690	4,259	5,143	5,579	6,552	4,293	3,701	3,552	4,465	53,415
Total	414,702	371,738	457,003	502,485	562,591	614,929	588,193	600,548	574,227	560,639	475,397	507,586	6,230,038

Administrator's Regulations

(March 1, 1949)

Note: Date of publication in the Federal Register and the price of that issue of the Federal Register are indicated, in parentheses. Copies of the Federal Register may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances should be by check or money order, payable to the Superintendent. Currency is sent at sender's risk.

Part 405—Procedure of the Civil Aeronautics Administration. (Published as Part 651; September 11, 1946–Part 2, Section 2. 40¢.)
- Amendment 1. (November 13, 1946. Out of print.)
- Amendment 2. (December 4, 1946. Out of print.)
- Amendment 3. (January 3, 1947. 15¢.)
- Amendment 4. (January 7, 1947. 15¢.)
- Amendment 5. (April 8, 1947. 15¢.)
- Amendment 6. (April 30, 1947. 15¢.)
- Amendment 7. (September 16, 1947. 20¢.)
- Amendment 8. (June 5, 1948. 15¢.)
- Amendment. (September 11, 1948. 15¢.)

Part 406—Rules of Practice Governing Proceedings to Alter Amend, or Modify Certificates. (Published as Part 652; March 27, 1947. 15¢.)

Part 407—Seizure of Aircraft. (February 19, 1949. 15¢.) (Supersedes Part 531, effective April 1, 1949.)

Part 450—Inter-American Aviation Training Grants. (Published as Part 690; May 21, 1948. 15¢.)

Part 501—Aircraft Registration Certificates. (April 30, 1947. 15¢.)

Part 502—Dealers' Aircraft Registration Certificates. (April 30, 1947. 15¢.)

Part 503—Recordation of Aircraft Ownership. (September 11, 1948. 15¢.)

Part 504—Recordation of Encumbrances Against Specifically Identified Aircraft Engines. (September 11, 1948. 15¢.)

Part 505—Recordation of Encumbrances Against Aircraft Engines, Propellers, Appliances, or Spare Parts. (September 11, 1948. 15¢.)

Part 550—Federal Aid to Public Agencies for Development of Public Airports. (March 18, 1948. 15¢.)
- Amendment 1. (Apr. 30—corrected May 12—1948. 15¢ each.)
- Amendment 2. (June 11, 1948. 15¢.)
- Amendment 3. (November 4, 1948. 15¢)
- Amendment 4. (December 14, 1948. 15¢.)
- Amendment 5. (January 4, 1949. 15¢)
- Amendment 6. (January 29, 1949. 15¢)

Part 555—Acquisition by Public Agencies for Public Airport Purposes of Lands Owned or Controlled by the United States. (January 9, 1947. 15¢.)
- Amendment 1. (February 21, 1947. 15¢.)
- Amendment 2. (April 1, 1948. 15¢.)

Part 560—Claims for Reimbursement for Rehabilitation or Repair of Public Airports Damaged by Federal Agencies. (January 9, 1947. 15¢.)
- Amendment 1. (October 21, 1948. 15¢.)

Part 570—General Regulations of Washington National Airport. (Published as Part 510; January 23, 1947. 15¢.)
- Amendment 1. (December 30, 1948. Pt. 1 20¢.)
- Amendment 2. (January 5, 1949. 15¢.)

Part 571—Aeronautical Rules for the Washington National Airport. (Published as Part 511; January 23, 1947. 15¢.)
- Amendment 1. (January 5, 1949. 15¢.)

Part 600—Designation of Civil Airways. (June 28, 1947. 15¢.)
- Amendment 1. (September 16, 1947. 20¢.)
- Amendment 2. (December 3, 1947. 15¢.)
- Amendment 3. (March 6, 1948. 15¢.)
- Amendment 4. (April 27, 1948. 15¢.)
- Amendment 5. (May 15, 1948. 15¢.)
- Amendment 6. (June 29, 1948. 15¢.)
- Amendment 7. (August 17, 1948. 15¢.)
- Amendment 8. (September 30, 1948. 15¢.)
- Amendment 9. (October 15, 1948. 15¢.)
- Amendment 10. (October 21, 1948. 15¢.)
- Amendment 11. (November 30, 1948. 15¢.)
- Amendment 12. (December 4, 1948. 15¢.)
- Amendment 13. (December 29, 1948. 30¢.)
- Amendment 14. (February 2, 1949. 15¢.)

Part 601—Designation of Control Areas, Control Zones, and Reporting Points. (June 28, 1947. 15¢.)
- Amendment 1. (September 16, 1947. 20¢.)
- Amendment 2. (October 15, 1947. 15¢.)
- Amendment 3. (October 23, 1947. 15¢.)
- Amendment 4. (December 3, 1947. 15¢.)
- Amendment 5. (March 6, 1948. 15¢.)
- Amendment 6. (April 27, 1948. 15¢.)
- Amendment 7. (May 15, 1948. 15¢.)
- Amendment 8. (June 29—corrected July 16—1948. 15¢ each.)
- Amendment 9. (July 9, 1948. 15¢.)
- Amendment 10. (August 17, 1948. 15¢.)
- Amendment 11. (August 31, 1948. 15¢.)
- Amendment 12. (September 30, 1948. 15¢.)
- Amendment 13. (October 15, 1948. 15¢.)
- Amendment 14. (October 21, 1948. 15¢.)
- Amendment 15. (November 30, 1948. 15¢.)
- Amendment 16. (December 4, 1948. 15¢.)
- Amendment 17. (December 29, 1948. 30¢.) (Corrected January 26, 1949. 15¢.) Corrected March 1, 1949. 15¢.)
- Amendment 18. (February 2, 1949. 15¢.)
- Amendment 19. (February 19, 1949. 15¢.) (Effective March 8, 1949.)

Part 609—Standard Instrument Approach Procedure. (March 19, 1948. 15¢.)
- Amendment 1. (September 11, 1948. 15¢.)

Part 610—IFR Altitude Minimums. (November 19, 1947. 15¢.)
- Amendment 1. (November 26, 1947. 15¢.)
- Amendment 2. (April 3, 1948. 15¢.)

Part 625—Notice of Construction or Alteration. (June 26, 1948. 15¢.)

Part 635—Reproduction and Dissemination of Current Examination Materials. (Published as Part 532; January 19, 1943. Out of print.)

Scheduled Air Carrier Operations

(Continued on page 33)

Domestic: January–December 1948, 1947

Operator	Revenue miles Jan.–Dec.		Revenue passengers Jan.–Dec.		Revenue passenger-miles (000) Jan.–Dec.		Passenger seat-miles (000) Jan.–Dec.	
	1948	1947	1948	1947	1948	1947	1948	1947
Trunk Lines								
American Airlines	55,347,131	57,598,709	2,781,000	2,756,212	1,303,068	1,379,323	2,149,543	1,967,435
Braniff Airways	11,031,223	11,024,158	565,666	587,481	193,806	199,634	357,721	324,366
Capital Airlines (PCA)	17,532,046	16,236,556	1,021,899	1,095,642	275,770	288,470	562,542	534,602
Chicago & Southern Air Lines	7,074,652	7,083,921	281,438	282,549	105,173	111,643	186,674	190,996
Colonial Airlines	3,076,006	3,117,351	142,563	135,623	39,194	37,855	64,183	61,603
Continental Air Lines	5,590,235	5,156,958	161,388	169,062	58,656	58,926	116,440	106,291
Delta Air Lines	12,997,070	11,840,706	485,604	497,768	183,162	201,048	351,693	331,423
Eastern Air Lines	49,405,064	46,050,900	1,998,785	1,734,902	965,264	884,300	1,637,808	1,467,480
Inland Air Lines	2,308,314	2,219,332	73,680	78,252	26,852	27,810	45,527	43,038
Mid-Continent Airlines	7,969,743	6,574,538	313,096	269,023	93,165	81,873	159,476	132,329
National Airlines	5,691,534	9,159,554	165,652	307,627	90,442	157,343	235,684	287,558
Northeast Airlines	3,365,660	3,937,578	272,292	325,172	52,092	62,142	108,468	121,287
Northwest Airlines	16,812,465	16,817,021	614,190	643,708	325,283	346,873	577,635	502,731
Transcontinental & Western Air	54,309,542	48,788,787	1,236,901	1,066,833	847,677	817,883	1,463,538	1,233,977
United Air Lines	57,447,918	58,919,715	1,934,812	1,917,145	1,155,974	1,189,109	1,767,281	1,578,827
Western Air Lines	6,317,756	7,353,646	275,067	412,017	106,962	166,396	195,950	268,446
Trunk total	316,276,359	311,879,430	12,324,033	12,279,016	5,822,540	6,010,628	9,980,163	9,152,389
Index (1947=100)	101.41	100.00	100.37	100.00	96.87	100.00	109.04	100.00
Feeder Lines								
All American Airways	1,757,895	1,749,273	0	0	0	0	0	0
Challenger Airlines	1,369,790	605,286	21,328	9,983	5,352	2,489	27,683	12,764
Empire Air Lines	992,629	905,552	22,648	11,518	4,768	2,510	18,885	9,048
Florida Airways	817,958	678,619	12,260	6,806	1,659	901	6,483	5,194
Los Angeles Airways	283,849	36,905	0	0	0	0	0	0
Monarch Air Lines	1,650,242	1,190,243	28,195	18,079	6,790	3,916	29,640	20,171
Piedmont Aviation	1,600,044	–	39,370	–	9,296	–	33,669	–
Pioneer Air Lines	3,425,755	2,131,412	93,855	62,698	25,080	16,513	82,320	51,351
Robinson Airlines	175,842	–	8,173	–	1,214	–	3,693	–
Southwest Airways	2,350,296	1,802,285	97,434	83,468	17,785	14,975	51,752	36,144
Trans-Texas Airways	1,844,286	219,491	22,269	1,550	5,396	311	38,729	4,609
West Coast Airlines	1,254,356	783,602	68,768	41,483	8,635	4,803	24,127	16,226
Wisconsin-Central Airlines	798,014	–	11,395	–	1,953	–	6,961	–
Feeder total	18,320,956	10,102,668	425,695	235,585	87,928	46,418	323,942	155,507
Index (1947=100)	181.35	100.00	180.70	100.00	189.43	100.00	208.31	100.00
Territorial Lines								
Caribbean-Atlantic Airlines	420,471	394,303	74,401	68,296	4,680	4,198	10,597	9,551
Hawaiian Airlines	3,199,007	2,677,988	343,971	307,311	48,184	42,635	70,381	56,314
Territorial total	3,619,478	3,072,291	418,372	375,607	52,864	46,833	80,978	65,865
Index (1947=100)	117.81	100.00	111.39	100.00	112.88	100.00	122.95	100.00
Grand total	338,216,793	325,054,389	13,168,100	12,890,208	5,963,332	6,103,879	10,385,083	9,373,761
Index (1947=100)	104.05	100.00	102.16	100.00	97.70	100.00	110.79	100.00

Operator	Revenue passenger load factor (percent) Jan.–Dec.		Ton-Miles Flown: Express Jan.–Dec.		Freight Jan.–Dec.		U. S. Mail Jan.–Dec.	
	1948	1947	1948	1947	1948	1947	1948	1947
Trunk Lines								
American Airlines	60.62	70.11	5,529,695	5,144,377	21,761,115	11,178,731	8,093,657	6,905,725
Braniff Airways	54.18	61.55	873,738	827,913	1,195,543	475,437	948,192	777,811
Capital Airlines (PCA)	49.02	53.96	1,909,794	2,034,636	5,013,288	2,433,202	884,110	642,694
Chicago & Southern Air Lines	56.34	58.45	600,966	662,443	548,294	388,025	481,731	386,764
Colonial Airlines	61.07	61.45	52,233	60,075	45,401	7,989	81,616	75,940
Continental Air Lines	50.37	55.44	99,841	85,488	270,996	137,133	180,184	155,991
Delta Air Lines	52.08	60.66	856,997	775,821	1,677,390	876,129	927,025	754,802
Eastern Air Lines	58.94	60.26	3,784,534	3,773,010	5,256,441	2,509,900	4,376,272	3,461,663
Inland Air Lines	58.98	64.62	55,242	44,119	82,831	27,853	107,015	95,729
Mid-Continent Airlines	58.42	61.87	190,456	152,398	275,399	112,926	298,096	230,866
National Airlines	38.37	54.72	571,616	492,539	698,109	526,144	326,189	507,535
Northeast Airlines	48.03	51.24	97,027	111,048	175,831	65,038	74,997	63,393
Northwest Airlines	56.31	69.00	1,730,248	1,699,688	2,546,489	951,655	2,197,432	2,112,007
Transcontinental & Western Air	57.92	66.28	5,886,554	5,460,025	9,998,637	4,920,493	8,871,096	7,607,219
United Air Lines	65.41	75.32	7,222,694	6,810,859	19,782,450	10,161,538	9,191,331	8,463,507
Western Air Lines	54.98	61.98	307,248	398,923	643,883	441,397	467,042	637,179
Trunk total	58.34	65.67	29,768,883	28,533,362	69,972,097	35,213,590	37,505,985	32,878,825
Index (1947=100)	88.84	100.00	104.33	100.00	198.71	100.00	114.07	100.00
Feeder Lines								
All American Airways	–	–	34,134	33,751	0	0	41,355	38,559
Challenger Airlines	19.33	19.50	21,532	7,112	42,504	8,403	33,903	13,356
Empire Air Lines	25.25	27.74	8,596	4,079	0	0	21,038	15,284
Florida Airways	25.59	17.35	3,771	1,963	0	0	7,817	4,086
Los Angeles Airways	–	–	0	0	0	0	28,400	2,533
Monarch Air Lines	22.91	19.41	15,824	16,316	81,349	38,870	26,444	13,816
Piedmont Aviation	27.61	–	18,832	–	15,548	–	18,785	–
Pioneer Air Lines	30.47	32.16	21,432	17,842	40,254	4,418	73,809	37,145
Robinson Airlines	32.87	–	0	–	4,149	–	3,815	–
Southwest Airways	34.37	41.43	31,856	31,295	74,756	10,348	45,892	34,040
Trans-Texas Airways	13.93	6.75	9,513	215	6,234	0	37,942	1,654
West Coast Airlines	35.79	29.60	10,152	4,950	0	0	11,263	7,091
Wisconsin-Central Airlines	28.06	–	13,908	–	0	–	11,521	–
Feeder total	27.14	29.85	189,550	117,523	264,794	62,039	361,984	167,564
Index (1947=100)	90.92	100.00	161.29	100.00	426.82	100.00	216.03	100.00
Territorial Lines								
Caribbean-Atlantic Airlines	44.16	43.95	0	0	9,782	7,701	6,605	4,961
Hawaiian Airlines	68.46	75.71	134,400	115,774	571,340	628,224	46,885	34,825
Territorial total	65.28	71.10	134,400	115,774	581,122	635,925	53,490	39,786
Index (1947=100)	91.81	100.00	116.09	100.00	91.38	100.00	134.44	100.00
Grand total	57.42	65.12	30,092,833	28,766,659	70,818,013	35,911,554	37,921,459	33,086,175
Index (1947=100)	88.18	100.00	104.61	100.00	197.20	100.00	114.61	100.00

Scheduled Air Carrier Operations

(Continued from page 32)

Domestic: December 1948

Operator	Revenue miles	Revenue passengers (unduplicated)	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor (percent)	Ton-miles flown		
						Express	Freight	U. S. Mail
Trunk Lines								
American Airlines	4,415,598	216,520	111,248	175,146	63.52	577,020	2,623,482	1,161,026
Braniff Airways	968,550	47,137	16,009	32,779	48.84	94,321	88,964	118,523
Capital Airlines (PCA)	1,536,831	80,466	24,363	50,158	48.57	188,224	532,881	118,495
Chicago & Southern Air Lines	602,666	24,392	8,188	15,731	52.05	54,689	62,611	62,370
Colonial Airlines	247,547	10,102	2,701	5,195	51.99	4,773	4,843	10,360
Continental Air Lines	463,944	13,398	4,832	10,830	44.62	9,806	28,431	23,350
Delta Air Lines	1,168,452	42,301	17,692	34,509	51.27	95,388	168,832	137,079
Eastern Air Lines	4,506,356	162,550	78,837	150,582	52.35	439,249	705,640	541,303
Inland Air Lines	195,127	6,045	2,101	3,894	53.95	5,482	10,700	14,725
Mid-Continent Airlines	657,558	25,121	7,605	13,127	57.93	17,445	25,751	38,190
National Airlines	692,792	21,307	12,478	28,643	43.56	51,115	77,962	66,555
Northeast Airlines	264,187	18,637	3,538	7,734	45.75	10,140	11,817	11,690
Northwest Airlines	1,330,567	40,840	21,683	47,358	45.79	187,646	372,505	299,959
Transcontinental & Western Air	4,453,369	98,895	66,719	126,126	52.90	628,981	1,140,209	1,159,722
United Air Lines	4,206,618	147,164	87,004	139,532	62.35	806,408	1,958,072	1,267,365
Western Air Lines	539,387	22,752	8,638	17,486	49.40	33,232	68,118	62,960
Trunk total	26,249,549	977,627	473,636	858,830	55.15	3,203,919	7,880,818	5,093,672
Feeder Lines								
All American Airways (formerly All American Aviation)	147,032	0	0	0	–	3,143	0	4,955
Challenger Airlines	110,174	1,598	390	2,203	17.70	2,404	4,406	5,605
Empire Air Lines	79,594	2,506	427	1,659	25.74	931	0	1,966
Florida Airways	67,983	895	127	550	23.09	323	0	938
Los Angeles Airways	30,434	0	0	0	–	0	0	4,266
Monarch Air Lines	134,566	2,112	539	2,418	22.29	1,654	4,948	2,827
Piedmont Aviation	186,370	4,548	1,099	3,958	27.77	2,661	2,775	2,924
Pioneer Air Lines	342,514	8,553	2,352	8,258	28.48	2,766	6,071	12,367
Robinson Airlines	56,037	2,437	366	1,177	31.10	0	1,046	1,366
Southwest Airways	192,498	7,887	1,472	4,620	31.86	3,731	7,896	6,366
Trans-Texas Airways	193,210	2,948	758	4,057	18.68	1,295	794	8,084
West Coast Airlines	109,725	4,548	599	2,060	29.08	1,019	0	1,115
Wisconsin-Central Airlines	95,516	1,215	185	793	23.33	1,743	0	1,926
Feeder total	1,745,653	39,247	8,314	31,753	26.18	21,670	27,936	54,705
Territorial Lines								
Caribbean-Atlantic Airlines	39,461	7,054	439	988	44.43	0	1,330	1,338
Hawaiian Airlines	250,562	28,543	3,966	5,484	72.32	14,421	58,346	10,021
Territorial total	290,023	35,597	4,405	6,472	68.06	14,421	59,676	11,359
Grand total	28,285,225	1,052,471	486,355	897,055	54.22	3,240,010	7,968,430	5,159,736

West Coast Airlines Mail Rate Proposed

The Civil Aeronautics Board has proposed a final mail rate for West Coast Airlines, a feeder airline operating from Medford to Portland, Oreg., Seattle and Bellingham, Wash. For the period December 5, 1946 to September 30, 1948, the Board proposes to pay West Coast the sum of $1,252,617, which is equivalent to 73.0 cents per revenue plane mile flown, and will entitle the airline to approximately $407,000 in addition to the mail pay already received under the present temporary rate.

For the period commencing October 1, 1948, the Board proposes a sliding scale mail rate, with a base or maximum rate of 80.30 cents per airplane mile, related to a daily base mileage of 2,650 miles. The actual rate to be received will be computed on the basis of passenger load factors and miles actually flown. The Board estimates that this rate will yield West Coast approximately 57.2 cents per airplane mile with an estimated 37.5 percent passenger load factor, and will give West Coast annual mail compensation of $707,000 in a future year.

Although the sliding scale formula applied here provides for decreases in the per-mile mail rate as load factors increase, it is calculated so as to increase the profit earned by West Coast as passenger traffic rises. As a result there is an incentive to the airline to develop maximum nonmail revenues on the route, and to effect any possible operating economies.

26 More Grants Made To Airport Sponsors

Twenty-six more grant offers for airport construction or development were made under the Federal Aid Airport Program during the month of January, D. W. Rentzel, Administrator of Civil Aeronautics, announced.

The grants made during the month involved $2,077,725 in Federal funds. Grant offers to date number 638 and represent $65,568,566 in Federal funds. Of the grant offers made during January, 5 were for work on Class I airports, 4 for class II airports, 1 for a class III airport, and 16 for Class IV and larger fields.

Of the total grant offers to date 156 were for Class I airports, 157 for Class II airports, 160 for Class III airports, and 165 for Class IV and larger airports.

Largest grant during January was for $570,000 for construction work on a new administration building at the Greater Pittsburgh, Pennsylvania, airport. The sponsor will provide matching funds for the work. The $570,000 was the second grant offer at the Pittsburgh airport, the other being for $650,000 in Federal funds.

The December 31 tabulation of the progress of the program shows 188 projects 100 percent completed, 160 projects between 76 and 99 percent completed, 50 projects between 51 and 75 percent completed, 43 projects between 25 and 50 percent completed and 51 projects between one and 25 percent completed.

State-by-State List Shows Slight Increase In Civilian Aircraft

The number of civil aircraft in the United States showed signs of leveling off in 1948. On January 1, 1949 total aircraft stood at 95,997, an increase of only 1 percent over the 94,821 aircraft on record at the beginning of 1948.

In 1946, aircraft production reached an all-time high. This factor in conjunction with the release of thousands of surplus military planes adaptable for civil use caused aircraft registrations to rise sharply during the year from 38,378 to 81,002 planes. This figure rose to 94,821 aircraft in 1947.

The January 1, 1949 totals reveal that California still leads all other states in the number of cviii aircraft with 10,741, followed by Texas with 7,856, and New York with 4,661.

The following tabulation gives a state-by-state comparison of U. S. civil aircraft as of January 1, 1946, 1947, 1948 and 1949.

U. S. Civil Aircraft

[As of January 1, each year]

State	1949	1948	1947	1946
Alabama	996	998	908	391
Arizona	1,241	1,164	885	405
Arkansas	1,172	1,078	899	481
California	10,741	10,221	8,456	3,732
Colorado	1,349	1,313	1,088	429
Connecticut	706	755	635	343
Delaware	232	247	215	97
District of Columbia	706	933	986	994
Florida	2,787	2,907	2,572	1,190
Georgia	1,419	1,538	1,346	643
Idaho	841	718	545	303
Illinois	4,659	4,503	3,705	1,571
Indiana	2,775	2,718	2,269	1,112
Iowa	2,388	2,190	1,734	802
Kansas	3,119	2,719	2,410	962
Kentucky	869	835	686	286
Louisiana	1,051	984	760	328
Maine	636	605	491	206
Maryland	1,023	1,184	1,468	431
Massachusetts	1,425	1,454	1,255	598
Michigan	4,450	4,695	3,779	1,896
Minnesota	2,139	2,073	1,798	821
Mississippi	714	720	612	321
Missouri	2,315	2,404	2,171	1,102
Montana	1,027	845	656	288
Nebraska	1,761	1,534	1,139	444
Nevada	418	422	383	223
New Hampshire	308	304	244	118
New Jersey	1,672	1,650	1,393	694
New Mexico	763	785	617	333
New York	4,661	4,797	4,107	2,297
North Carolina	1,790	1,817	1,579	676
North Dakota	1,077	851	579	256
Ohio	4,414	4,789	4,448	1,810
Oklahoma	2,453	2,368	1,862	971
Oregon	1,795	1,619	1,227	434
Pennsylvania	4,248	4,393	3,838	2,264
Rhode Island	204	199	181	89
South Carolina	758	836	760	439
South Dakota	914	746	585	207
Tennessee	1,228	1,306	1,216	557
Texas	7,856	8,347	7,789	3,010
Utah	534	542	468	206
Vermont	212	187	144	79
Virginia	1,459	1,437	1,220	610
Washington	2,231	2,043	1,616	677
West Virginia	670	660	567	291
Wisconsin	2,202	2,013	1,731	824
Wyoming	506	428	326	140
Outside Continental U. S.	1,083	947	654	408
Gliders	[1]	[1]	[1]	[2] 589
TOTAL	95,997	94,821	81,002	38,378

[1] Included in State totals.
[2] Not distributed among the States in this tabulation.

WNA Construction Planned

Activity at the Washington National Airport has so expanded in recent years that the Federal Works Agency is about ready to construct an extension to the Terminal Building. Brig. Gen. Philip B. Fleming, Federal Works Administrator, said bids might be asked during March on the extension to provide additional office space for necessary airline and Government transport facilities.

Regulations

ER–137 ——— Effective February 25, 1949

Amends § 238.3 of the Economic Regulations so as to authorize the scheduling of 2-hour stops for all cargo flights at non-terminal points on routes.

ER–138 ——— Effective March 12, 1949

Previous to the effective date of this amendment nonscheduled Alaskan Air Carriers holding certificates of public convenience and necessity and all noncertificated Alaskan Air Carriers were not required to file reports of financial and operating statistics with the Board. The Board has found that such reports are necessary to enable the Board and its Alaska office to perform their regulatory functions under the Civil Aeronautics Act.

This amendment of § 202.1 of the Economic Regulations adds a requirement with respect to the periodic reporting of certain data to the Board by all noncertificated Alaskan Air Carriers and revises the existing provisions of § 202.1(a) to make them applicable to all certificated air carriers rather than to all "scheduled" air carriers. With this change, the coverage of § 202.1(a) remains unaffected other than to extend it to those certificated Alaskan Air Carriers which do not operate on a scheduled basis. In the event a waiver of the reporting requirements applicable to a certificated Alaskan Air Carrier is granted, such carrier will now be required to file a report on the form applicable to all noncertificated Alaskan Air Carriers.

Amdt. 52–1 ——— Effective March 10, 1949

Amends Civil Air Regulations, Part 52, by adding a new § 52.38 so as to permit the Administrator to issue specialized ratings to foreign nationals operating foreign repair stations and to permit the use of foreign mechanics not holding mechanic certificates issued by the United States.

OR–13 ——— Effective January 27, 1949

As a result of experience in the administration of the Civil Aeronautics Act of 1938, as amended, the Board has found that much of its work in connection with certain routine approvals could be delegated to the staff to the advantage of the public and the industry regulated by the Board, as well as to the advantage of the Board and its staff.

This amendment amends the Organizational Regulations by adding four new paragraphs to the section titled "Delegations of Authority," delegating authority to the Director, Bureau of Economic Regulations, with reference to free and reduced rate transportation, interlocking relationships, temporary changes in service patterns, and dismissal of investigations of certain tariffs or tariff rules. A paragraph also is added regarding the certification of Board records to Appellate Courts.

OR–14 ——— Effective February 3, 1949

Amends Organizational Regulations (formerly § 301.2 and § 302.4) so as to delegate authority to the Director of the Bureau of Economic Regulation to take preliminary action on behalf of the Board to approve contracts and agreements filed with the Board.

Safety Orders

S–211 revokes pilot certificate of George C. Church (Jan. 14).

S–212 revokes pilot certificate of Gilbert Rionda Clarke (Jan. 14).

S–213 dismisses petition of Jane Doe for rehearing and reconsideration in the matter of the acquisition of an airman certificate (Jan. 24).

S–214 revokes pilot certificate of Charles Ferris Thackwell (Jan. 24).

S–215 revokes commercial pilot certificate of John Gibbson Foster (Jan. 27).

S–216 revokes commercial pilot certificate of Stanley H. Woodward, Forked River, N. J. (Jan. 27).

S–217 suspends for 60 days, private pilot certificate of August R. Ball, Lombard, Ill. (Jan. 27).

S–218 suspends for 90 days, pilot certificate of Spencer M. Harper (Jan. 31).

S–219 suspends for 40 days, airline transport pilot certificate of Joseph B. Kuhn for failing to give way to the right when overtaking another plane, resulting in a collision (Feb. 4).

S–220 suspends for 30 days, pilot certificate of Albert M. Sosdian (Jan. 27).

S–221 vacates initial decision of the examiner in the case of Albert Paul Mantz and remands case for further hearing (Feb. 9).

S–222 suspends for 60 days, pilot certificate of John D. Rockafellow for operating an aircraft over a naval air station in acrobatic maneuvers and failing to conform to the flow of traffic (Feb. 10).

S–223 denies petition of Eldon H. Lowinske for modification of an order suspending his commercial pilot certificate for 6 months and revoking his flight instructor rating for demonstrating spins to students on flights when no parachutes were worn and for authorizing solo cross-country flights for students without first personally determining their competency (Feb. 11).

S–224 affirms previous Board order terminating proceedings against J. E. Douglas, holder of airline transport certificate (Feb. 14).

S–225 stays, until further order of the Board, order issued February 4, 1949, suspending for 40 days, airline transport pilot certificate of Joseph B. Kuhn (Feb. 14).

Airline Orders

E–2353 denies petition of Trans-Texas Airways for an amendment of order No. E–1405 in the *Mississippi Valley* case (Jan. 10).

E–2354 denies petition of United Air Lines, and dismisses petition of TWA in the matter of the suspension and revocation of Letter of Registration No. 110 issued to NATS Air Transportation Service (Jan. 10).

E–2355 grants the Williamsport Municipal Airport Authority, Williamsport, Pa., and the city of Elmira, N. Y., leave to intervene in the matter of an agreement filed between Capital Airlines and National Airlines relating to interchange of aircraft (Jan. 10).

E–2356 grants certain parties leave to interene in the matter of the investigation of the transfers of the routes and property of National Airlines (Jan. 10).

E–2357 orders investigation of, and suspends for 90 days, certain rules and tariffs in the matter of round-trip excursion fares proposed by Northwest Airlines (Jan. 11).

E–2358 orders a proceeding instituted in the matter of the suspension of the certificate of URABA, Medellin, and Central Airways under § 401(h) of the Act (Jan. 13).

E–2359 order and opinion issues an amended temporary certificate to Challenger Airlines Company authorizing service to Vernal, Utah, and Casper, Wyo., as intermediate points on its route No. 74 (Jan. 14).

E–2360 approves interlocking relationships existing as a result of the holding of certain positions by Harry S. White in Southwest Airways Company and Palo Alto Airport (Jan. 14).

E–2361 orders investigation of, and suspends from January 21, 1949 to April 10, 1949, certain rules and tariffs proposed by National Airlines (Jan. 14).

E–2362 orders investigation of, and suspends for 90 days certain fares and charges proposed by Southwest Airways Company (Jan. 14).

E–2363 orders investigation of, and suspends for 90 days certain tariffs of Southwest Airways Company in the matter of its proposed Air Travel Credit Plan (Jan. 14).

E–2364 grants Empire Air Lines temporary exemption from the provisions of § 401(a) of the Act so as to permit it to serve Pasco-Kennewick-Richland as an intermediate point between Pendleton, Oreg., and Walla Walla, Wash., on segment 2 of route No. 78; grants Inland Airways leave to intervene in the proceeding (Jan. 14).

E–2365 suspends certificate of All American Airways for route No. 49; effective July 1, 1949, subject to certain conditions (Jan. 11).

E–2366 supplemental opinion orders that temporary certificate granted to All American Airways by order No. E–2367 be amended after All American has made appropriate showing as to adequacy of airport facilities (Jan. 11).

E–2367 issues temporary certificate to All American Airways in the *Middle Atlantic Area* case (Jan. 11).

E–2368 orders All American Airways and any other interested parties to show cause why the Board should not amend the certificate held by All American for route No. 97 so as to authorize local feeder service between Pittsburgh, Pa., and Charleston, W. Va., via Morgantown, Clarksburg, and Elkins; institutes a proceeding to determine whether such amendment should be required (Jan. 11).

E–2369 denies application of National Airlines for an amendment of its certificate for route No. 31 (Jan. 14).

E–2370 extends periods of suspension of certain tariffs in the *Air Freight Rate Investigation* case (Jan. 14).

E–2371 orders portion of application of Eastern Air Lines severed from Docket No. 3406 and assigned to Docket No. 3618; consolidates certain applications into the *Florida Trunkline Service* case (Jan. 14).

E–2372 amends temporary mail rate of Cordova Air Service for the period from July 13, 1944, through December 31, 1947 (Jan. 17).

E–2373 amends order establishing temporary mail rate for Monarch Air Lines (Jan. 17).

E–2374 permits State of Illinois Department of Aeronautics to intervene in the *United States-Alaska Service* case (Jan. 17).

E–2375 permits the Montana Chamber of Commerce to intervene in the *United States-Alaska Service* case (Jan. 17).

E–2376 permits City of Pensacola, Fla., to intervene in the *Florida Trunkline Service* case (Jan. 17).

E–2377 approves agreement between United Air Lines and National Air Lines relating to the sublease of certain office space (Jan. 17).

E–2378 approves agreement between certain airlines relating to porter service at Love Field Airport, Dallas, Tex. (Jan. 17).

E–2379 approves agreement between Slick Airways and Air Transport Associates relating to the furnishing of certain aircraft servicing at Pyote, Tex. (Jan. 17).

E–2380 approves agreement between American Airlines and TWA relating to porter service at Standiford Field, Louisville, Ky. (Jan. 17).

E–2381 opinion and order grants to British Caribbean Airways a foreign air carrier permit authorizing it to operate between Kingston, Jamaica, British West Indies, and Miami, Fla. Approved by the President January 14 (Jan. 7).

E–2382 permits interventions in the *Additional California-Nevada Service* case (Jan. 17).

E–2383 rescinds portion of order No. E–1330 which consolidated an application of Trans-Caribbean Air Cargo Lines for a temporary certificate into the proceeding involving its application for a certificate in docket No. 2174; affirms order consolidating Trans-Caribbean's application in docket No. 3189 into the *Additional Service to Puerto Rico* case (Jan. 17).

E–2384 approves agreement between Capital Airlines and United Air Lines relating to certain services and facilities to be provided for United at Milwaukee, Wis. (Jan. 18).

E–2385 approves agreement between Continental Air Lines and Pioneer Air Lines relating to servicing of aircraft at Santa Fe, N. Mex. (Jan. 18).

E–2386 approves agreements between Slick Airways and Alaska Airlines for the furnishing of parts, equipment, and labor at Pyote, Tex. (Jan. 18).

E–2387 approves agreement between American Airlines and Southwest Airways Company relating to interchange of space data over routes of both parties (Jan. 18).

E–2388 orders that there be withheld from public disclosure certain exhibits of Pan American Airways and TWA in the matter of the investigation of Pan American's operations between the United States and Saudi Arabia (Jan. 18).

E–2389 grants motion of Nats Air Transportation Service to dismiss paragraph 6 of a complaint by the Board's enforcement attorney charging violation of section 412 of the Act (Jan. 18).

E–2390 dismisses investigation of passenger fares of Pan American between Miami and San Juan, Puerto Rico, and Miami and St. Thomas, Virgin Islands (Jan. 18).

E–2391 consolidates several applications into the *Southern Service to the West* case (Jan. 18).

E–2392 denies petition and motions of Continental Air Lines and Eastern Air Lines concerning certain through service and certain matters in the *Southern Service to the West* case (Jan. 18).

E–2402 denies application of Nathan C. Browne, d.b.a. Nat Browne Flying Service, for authority to suspend service over its irregular route between all points in the Yukon River district to Holy Cross, eastward to Sleitmut, then southward to Kulukuk (Jan. 26).

E–2403 orders Nathan C. Browne, d.b.a. Nat Browne Flying Service, to resume operations over its route in the Territory of Alaska or show cause why the Board should not direct that its certificate should cease to be effective (Jan 26).

E–2404 modifies order No. 3210, issued October 17, 1944, as modified, so as to permit the purchase of two Lockheed Constellation airplanes by TWA from Hughes Tool Co. (Jan. 27).

E–2405 grants Hawaiian Airlines temporary exemption from the provisions of § 403(b) of the Act, so as to provide free transportation for Messrs. Beckerleg and Gibson, airways forecasters employed by the United States Weather Bureau (Jan. 27).

E–2406 grants the Postmaster General permission to intervene in the matter of the applications of Pan American and Wien Alaska Airlines for amendment of their certificates (Jan. 28).

E–2407 notifies TWA that it may not serve Boulder City, Nev., through the regular use of the New McCarran Field (Jan. 28).

E–2408 amends certificate of Pan American for its Seattle-Fairbanks, Alaska, route; approved by the President January 27, 1949 (Jan. 28).

E–2394 dismisses investigation and suspension proceeding in the matter of family excursion fares established by National Airlines (Jan. 24).

E–2395 dismisses investigation and suspension proceeding in the matter of round-trip proportional fares established by National Airlines (Jan. 24).

E–2396 dismisses investigation and suspension proceeding in the matter of round-trip excursion fares proposed by TWA (Jan. 24).

E–2397 dismisses investigation and suspension proceeding in the matter of round-trip excursion fares proposed by Challenger Airlines (Jan. 24).

E–2398 grants certain parties leave to intervene in the *Milwaukee-Chicago-New York Restrictions* case (Jan. 24).

E–2399 denies petition of American Air Transport and Flight School for a stay of the proceeding in the matter of its noncertificated operations (Jan. 24).

E–2400 grants United Air Lines temporary exemption from the provisions of § 401(a) of the Act, so as to permit it to engage in the air transportation of military property between certain Air Force bases (Jan. 25).

E–2401 approves agreement between TWA and Northeast Airlines relating to reciprocal arrangements for the storage and exchange of gasoline (Jan. 25).

E–2393 notifies Braniff Airways that the inauguration of nonstop service between Lima, Peru, and Rio de Janeiro, Brazil, may adversely affect the public interest (Jan. 19).

E–2409 approves agreement between Pan American and TWA relating to a lease arrangement (Jan. 28).

E–2410 approves agreement between United and TWA relating to plane service (Jan. 28).

E–2411 approves agreement between American Airlines and Cataract Motor Express relating to pickup and delivery service (Jan. 28).

E–2412 approves agreement between United and Empire Air Lines relating to the occupancy of space (Jan. 28).

E–2413 approves agreement between United and Monarch Air Lines relating to the furnishing of services at Grand Junction (Jan. 28).

E–2414 approves agreement between Capital Airlines and Mid-Continent relating to lease of space (Jan. 28).

E–2415 approves agreement between American and Western relating to interchange of space (Jan. 28).

E–2416 approves agreement between Northeast Airlines and Linea Aeropostal Venezolana, relating to interline traffic (Jan. 31).

E–2417 denies motion of Pan American requesting that the scope of the *Additional Service to Puerto Rico* case be enlarged so as to provide for possible termination of all exemption authorizations applicable to Large Irregular Air Carriers (Jan. 28).

E–2418 dismisses complaints of United and TWA with respect to certain changes in tariffs of Capital Airlines applicable to its sky coach service between New York, Pittsburgh and Chicago (Jan. 28).

E–2419 approves agreement between American and Trans-Canada Airlines relating to services and facilities (Jan. 31).

E–2420 authorizes change in service pattern for Piedmont Aviation on its route No. 87 (Feb. 1).

E–2421 approves agreements CAB Nos. 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, and 2600, between certain airlines, relating to interline traffic agreements (Jan. 31).

E–2422 approves agreements CAB Nos. 2019, 2072, 2098, 2182–2186, 2189–2197, 2200–2205, and 2486–2488, between certain airlines, relating to interline traffic (Feb. 1).

E–2423 authorizes Pan American to suspend service at Monrovia, Liberia, for two years (Feb. 1).

E–2424 grants Challenger Airlines permission to serve Casper, Wyo., on route No. 74 on or about February 1, 1949, through the use of Wardell Municipal Airport (Feb. 1).

E–2425 authorizes Wisconsin Central to suspend service at Baraboo-Portage, Wis., on route No. 86 until the Bell-Aero Service Airport is made adequate for use or until another suitable airport becomes available, whichever shall first occur (Feb. 1).

E–2426 approves agreements between American, American Overseas, and KLM Royal Dutch Air Lines relating to interline traffic (Feb. 2).

E–2427 approves agreements between American, American Overseas, and Hawaiian Airlines relating to interline passenger and cargo traffic (Feb. 2).

E–2428 approves agreements between American, American Overseas, and British Overseas Airways relating to interline traffic (Feb. 2).

E–2429 grants Northwest Airlines leave to intervene in the matter of the applications of the city of Beloit, Wis., the city of Janesville, Wis., and Rock County Airport Committee for air service to Beloit and Janesville, Wis. (Feb. 2).

E–2430 approves agreement between American Airlines and TWA relating to the use of public address system (Feb. 2).

E–2431 approves agreement between Mid-Continent and Pioneer Air Lines relating to ground facilities and service (Feb. 2).

E–2432 denies motion of certain parties to vacate the Board's order, as amended, instituting the investigation of the transfer of the routes and property of National Airlines and to dismiss the same (Feb. 2).

Air Industry Mobilization Policies To Be Outlined in ACC Statement

The report of the Air Coordinating Committee for 1948, recently submitted to President Truman, reveals that the ACC expects shortly to forward to the National Security Resources Board a statement of general policies as a preliminary to the formulation of a detailed and comprehensive plan for the mobilization of the air transport industry.

This policy statement, reflecting the views of the civil agencies, the military services, and the air transport industry, will cover the allocation of commercial transport aircraft, pilots, and facilities to military and essential civil services in the event of war; a system of priorities to be used in connection with the transportation of passengers, mail, and cargo; and the measures, including the proposed governmental machinery, necessary for the most efficient operation of a wartime airlift.

The year 1948 was the ACC's most active to date and one in which many opportunities were offered to prove its usefulness to the Government, the report states.

Four Hundred Meetings Held.—During the year, over 400 committee and subcommittee meetings were held, at which agreement was reached on well over 3,000 matters that required interdepartmental coordination.

Chief attention among these was given to four major aviation policy areas, as follows:

1. The ability of the aircraft industry to meet the requirements of both the national defense and the civilian economy.

2. The coordination of activities resulting from the acceptance and implementation of the SC–31 report of the Radio Technical Commission for Aeronautics on air navigation requirements for all-weather flying.

3. The coordination of positions to be taken by the United States in the International Civil Aviation Organization.

4. The continuing coordination and intergration of the policies and activities of the Federal Government with respect to military and domestic civil aviation, international air transportation, and the aircraft manufacturing industry.

Progress Made in Four Areas.—Significant progress was made in all four areas during the year, the report states. The formulation by the ACC of a plan for the coordination of air mobilization planning combined the aviation agencies of the government in an expanded study of air potentialities covering aircraft construction, air transportation, other civilian aviation resources, and government organization for wartime aviation administration. The report to the National Security Resources Board (NSRB) on the mobilization of the aircraft manufacturing industry continues a series of recommendations concerning air industrial policy which began with the report on October 11, 1945, of the ACC subcommittee on Demobilization of the Aircraft Industry.

The ACC has also devoted considerable time and attention to several problems directly concerned with the financial condition of the air transport industry. One of the most critical of these problems which the Committee has been studying is that of securing adequate financing to maintain efficient operations and at the same time make possible the acquisition of new equipment.

The SC–31 report of the RTCA, prepared at the ACC's request, outlines a transitional and ultimate (or long term) plan for all-weather air navigation and traffic control. Accepted by the Committee during 1948, the report marks a notable achievement in the Government's efforts to promote air transportation. It also represents the coordinated planning of military and civilian interests and provides both for safety in air navigation and the expeditious movement of air traffic.

Mobilization Problems Studied.—Since its establishment, the ACC has given extensive consideration to the problems connected with the mobilization of the aviation resources of the country. The Committee has consistently emphasized the need for the strengthening of the nation's total air potential in order that its ability to defend itself under varying wartime circumstances in the atomic age be maintained at the necessary level.

In April 1948, the NSRB and the ACC agreed upon a program under which the ACC would prepare air mobilization plans for NSRB. Since that time, the Industrial Division of the ACC has been concerned exclusively with the coordination of mobilization planning in the following fields: aircraft production, air transportation, other civil aviation resources, and government organization for a wartime aviation administration. Representatives of the NSRB and the Munitions Board are participating in the work of the subcommittees in these fields.

On December 21, 1948, a report of the aircraft manufacturing industry was approved by the ACC for transmission to the NSRB, together with 12 special studies which were prepared in connection with the report. The report recommends certain basic policies essential to air industrial mobilization, including the steps necessary to place these policies into effect.

A Civil Transport Aircraft Evaluation and Development Board, which was provisionally created within the ACC framework, has made preliminary studies of the problems involved in governmental assistance in the development of prototype transport aircraft. Included among these have been studies of the air cargo potential, the characteristics of possible prototypes, and methods by which the Government might recover money spent in their development.

Member Agencies Coordinate Problems.—Important areas in which member agencies continued to coordinate their common technical problems through the ACC during 1948 were meteorology, communications and electronics, accident prevention, maps and charts, flight operations, airworthiness, airports, air routes, and ground aids, the ACC report sets out. The products of such coordination have been the adoption of standardized operating procedures where applicable; an integrated approach to problems of mutual concern; and an increased awareness and appreciation by the participating agencies of each others' objectives.

During 1948, the ACC's Airspace Subcommittee completed action on more than 1,700 cases involving use of the air space at specific points throughout the United States, its territories and possessions. Many of these cases involved conflicts which were resolved on the subcommittee level.

At the request of the Federal Communications Commission, the Subcommittee is considering as a special project the proposed establishment of criteria to be used to determine when radio towers are obstructions to air navigation.

The ACC has approved a program which will enable the Search and Rescue Subcommittee to coordinate the use of all governmental search and rescue facilities necessary to meet the requirements and needs of domestic and international civil aviation.

Services and Procedures Standardized.—Substantial progress in the standardization of aviation meteorological services and procedures has been made as a result of agreements reached by the member agencies of the Subcommittee on Aviation Meteorology. The location, number and agency responsibility for surface and upper-air observation stations in the United States and territories have been agreed upon, and domestic and world-wide weather report transmissions and exchanges have been coordinated and codes standardized.

Action to establish a coordinated national weather facsimile network is under way.

A major objective of the ACC has been the development of ways and means of providing international aviation facilities adequate to the traffic needs and safety requirements of international air commerce.

The ACC coordinated the preparation of positions and the selection of delegates for four ICAO regional air navigation meetings during the year. At these meetings, the participating nations developed the technical requirements for air navigation facilities and services to meet the needs of air transportation in their particular areas. These facilities included air routes, airports and ground aids, air traffic control, communications, meteorology, and search and rescue.

CAA and CAB Releases

Copies of CAA releases may be obtained from the CAA Office of Aviation Information. CAB releases are obtainable from the Public Information Section of the Board. Both offices are located in the Department of Commerce Building, Washington 25, D. C.

Administration

Airports Increase, CAA Monthly Report Shows—(February 2).

CAA Announces Third Annual Report of the Federal Airport Act—(February 14).

Omnirange Tests Reveal High Reliability and Increasing Accuracy—(February 14).

CAA List Shows 97,025 U. S. Civil Aircraft—(February 14).

Federal Airport Program Highlights January 1–January 31—(February 23).

Heavy Passenger and Aircraft Traffic Continues at Washington National Airport—(February 24).

CAA Asks for Comments on Gas Sales at Airports—(February 16).

Boy Scouts Installed 336 Air Markers in 1948—(February 25).

Address by Colonel S. A. Mundell, Air Force Member, Air Navigation Development Board, entitled, "Operational Characteristics of Air Navigation and Traffic Control System," Montgomery, Alabama—(February 9).

Address by George D. Childress, Chief, Industrial Operations Section, entitled, "Control or Education in 'Aerial' Farming," Kansas State College, Manhattan, Kansas—(February 24).

Board

Mileage and Traffic Statistics for October 1948 (CAB 49–6) (February 4).

Accident Hearing Date Set for Piedmont Aviation, Inc. (CAB 49–7) (February 7).

Board Sets Date for Two Accident Hearings (CAB 49–8) (February 8).

Final Mail Rates Proposed for West Coast Airlines (CAB 49–9) (February 18).

Final Mail Rates Proposed for Mid-Continent Airlines (CAB 49–10) (February 18).

New Air Carrier Authorized in Hawaii (CAB 49–11) (February 21).

Airlift Techniques Worth Study, Air Transportation Industry Told

Ground and flight techniques developed and used by the Berlin Airlift can be studied to advantage by the air transportation industry, Col. Robert V. Garrett, Chief Pilot of the Civil Aeronautics Board, reported last month upon his return from a 15-day inspection tour of the operations of the Combined Airlift Task Force known as "Operation Vittles".

"The air transportation industry can learn much from properly evaluating the operational practices developed and followed by the Berlin Airlift," he said.

"I was particularly impressed by (1) the application of new methods of air traffic control; (2) the necessity for and value of flight engineers on multi-engine aircraft; (3) flight crew confidence in and precision use of GCA-radar landing-aid equipment; and (4) the proof that standardized flight instrument panels made training and operational flying easier and safer.

Former Air Carrier Pilot.—Prior to his service with the Board, Colonel Garrett served as Captain and later as Chief Pilot of a domestic air carrier for many years and was in charge of Army Air Force instrument pilot training on B-24 bombardment aircraft during World War II. He holds all multi-engine and instrument ratings and is a veteran of trans-Atlantic air crossings, having flown Lockheed Hudson bomber deliveries to England prior to Pearl Harbor.

Following is a summary of his 15-page report on the Airlift:

1. Aircraft: The USAF operates a total of 223 aircraft of which 206 are of the C-54 type. Each C-54 aircraft delivers a 20,000 pound payload into Berlin per trip. All C-54 aircraft are equipped with the standardized USAF instrument panel.

2. Air Traffic Control: The USAF operates schedules over one-way airways with intervals as close as 3 minutes apart and with 500-foot vertical separation.

Stacking of Aircraft Eliminated.—The USAF has instituted a method of air traffic control which eliminates the stacking of aircraft in a holding pattern while awaiting clearance to land, which is a complete departure from the accepted method of air traffic control practiced in the United States. Each aircraft missing an approach to Berlin executes a departure procedure and returns to its point of take-off so as not to interrupt following flight schedules. Missed approaches are so few as to be of little consequence to the airlift.

3. Air Crew Requirements: Approximately 500 air crews operate the 206 USAF C-54 aircraft, and each crew is composed of a pilot, co-pilot, and flight engineer. The USAF believes that the addition of a flight engineer as a crew member on multi-engine transport aircraft on the Berlin Airlift, which allows the pilot to devote his undivided attention to flight instruments, has resulted in safer take-offs, climb en-route, approaches, and landings.

4. Navigation and Landing Aids: Ground Controlled Approach (GCA-radar) is the standard instrument approach and landing system used on the Berlin Airlift. The Instrument Landing System (ILS) which is the standardized instrument approach and landing system installed at more than 75 airports in the United States, is not used on the Berlin Airlift.

Safety Record Good.—5. Safety Record: The USAF safety record on the Berlin Airlift is better than the over-all record of the U. S. Air Force.

6. Ground Handling: The loading and unloading of each C-54 aircraft on the Berlin Airlift is largely a manual operation performed by 12 to 15 German D. P.'s supervised by two USAF enlisted personnel. Schedules of ground crews insure that no C-54 spends more than 40 minutes ground time.

7. Maintenance of Aircraft: All 50-hour checks on the C-54 aircraft are performed in Germany; 200-hour checks are done in England; and for the 1,000-hour overhaul the aircraft are flown back to the U. S. An average of 90 engines per month are replaced on the 206 C-54's used on the Airlift, and 23 tires per day are replaced on the total fleet.

U. S. Wins in Suit Claiming Damages in Airline Crash

A $25,000 damage suit against the Federal Government alleging that a fatal airplane accident was due to negligence on the part of a Civil Aeronautics Administration air traffic controller was dismissed in United States District Court at Alexandria, Va., last month.

The suit, filed by Mrs. Mary H. Georger, of Warrenton, Va., whose son was one of 50 persons killed in a plane crash June 13, 1947, near Leesburg, Va., claimed that CAA personnel on duty at Washington National Airport were negligent in not warning the pilot of the plane to maintain sufficient altitude to clear the Blue Ridge Mountains on the West Virginia line.

Judge Albert V. Bryan, in dismissing the suit, ruled that the instruction from the traffic control center at WNA was an "exercise of judgment" and could not be construed as lacking in "due care." He also ruled that it had not been shown that the instructions caused the plane to crash.

New Hawaiian Carrier Granted Certificate

The Civil Aeronautics Board, in an opinion issued February 21, authorized Trans-Pacific Airlines, Ltd., to engage in air transportation of persons and property only, for a period of 5 years, between Honolulu, Oahu, and Hilo, Hawaii, via Hoolehua, Molokai; Lanai City, Lanai; Maalaea, Maui; Upolu Point, Hawaii; and Kailua, Hawaii; and between Honolulu, Oahu, and the Island of Kauai.

The Board said that Hawaiian Airlines, now the only certificated airline furnishing air service in the Islands, has developed into the principal passenger transportation agency in the Islands. It has furnished important service and has made a real contribution to the development of the territory. The travelling public in the Islands has grown practically dependent upon the facilities of Hawaiian. This dependence is, the Board said, fraught with grave significance in the event of any catastrophe, the destruction of facilities from fire, strikes, war emergencies, or other disastrous events producing the disruption of air service, and is neither necessary nor desirable.

The Board said that "upon consideration of all the facts of record and particularly the unique dependence of the Territory of Hawaii upon air transportation and its paramount importance to the economy and people of the Territory, and the absence of any showing that a second carrier will seriously impair the ability of Hawaiian to render adequate and economical service, we find that public interest requires the authorization of an additional air transportation service."

The Board in its opinion deferred the application of Trans-Air Hawaii for authority to carry freight only in the Islands. The Board said it would defer action on this application until there are available results of Trans-Air's operations with C-46 equipment for a period of at least 6 months. Trans-Air Hawaii is now operating in the Islands under an exemption as a scheduled cargo carrier.

Pilot, Not Control Tower, Responsible for Plane

Exactly how much authority does the man in the airport traffic control tower have over pilots proposing to take off? Just what is the significance of the "clearance" the controller may give the pilot?

In order to provide authoritative answers to these questions, D. W. Rentzel, Administrator of Civil Aeronautics, has made the following statement:

"The traffic controllers of the Civil Aeronautics Administration operate strictly within the bounds prescribed by the Civil Aeronautics Board in Part 60 of the Civil Air Regulations. This part declares that 'the pilot in command of the aircraft shall be directly responsible for its operation and shall have final authority as to operation of the aircraft.' It goes on to define an air traffic clearance as 'Authorization by air traffic control, for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within a control zone or controlled area.'

"Acting under this regulation, we always have instructed our controllers that they have authority to clear aircraft only with respect to traffic conditions, and that in providing weather information, they are simply furnishing assistance, but have no authority to prevent a plane from taking off because of weather.

"The ANC Handbook on 'Procedures for the Control of Air Traffic,' jointly issued by the CAA, the Air Force, Navy and Coast Guard on May 1, 1948, makes this very plain. It sets forth:

"'A clearance issued by an airport traffic control tower . . . is authority for a pilot to proceed only insofar as known air traffic conditions are concerned, and does not constitute authority for a pilot to violate any provision of Air Force, Navy or Civil Air Regulations. . . . The mere fact that the pilot received a traffic clearance for the flight does not relieve the pilot of any responsibility whatsoever in connection with a possible violation of Air Force, Navy, or Civil Air Regulations.'

"We feel that the airport traffic controller has more than enough to keep him busy in his task of moving a heavy volume of planes in and out of an airport without collision. It would be placing an impossible workload on the controller to expect him also to act as a safety agent, checking to see that every plane he clears is airworthy and is flying in accordance with its particular operating limitations as to weather.

"It is our sincere desire and prime objective to achieve the highest degree of safety and the controller will continue to furnish all possible information to assist the pilot to fly in compliance with regulations, but it must necessarily remain the pilot's ultimate responsibility to determine whether he should make a particular flight.

"Our regular aviation safety agents and their designees will, of course, exercise their usual care in ascertaining that planes are airworthy, crews are competent, and operating practices are sound."

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